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Atlas of Adirondack Caterpillars

With a Host List, Rearing Notes and a
Selected Bibliography of Works
Depicting Caterpillars



9226 *Acronicta superans*


Timothy L. McCabe

Biological Survey

New York State Museum Bulletin No. 470

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
The New York State Museum
Division of Research and Collections
Albany, New York 12230





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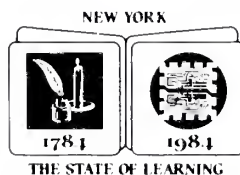
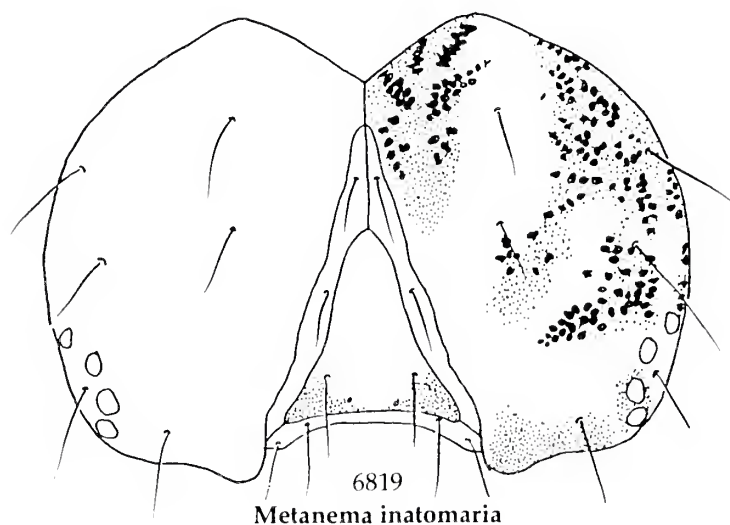
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ABSTRACT

Photographs of caterpillars, and line drawings of head capsules and mandibles, are presented for 178 species of Macrolepidoptera found in the Adirondack Mountains of New York State. Host records are given for 250 species, as well as many plant species rejected by first instar larvae. Notes on flight period, diapause, and adult emergence are also given. Finally, a selected, worldwide bibliography of works that depict immature stages of Lepidoptera is provided.

Key words: New York State, host records, larvae, Adirondack Mountains, insects, entomology

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INTRODUCTION

This bulletin is the result of two seasons (1977, 1980) of collecting and rearing Lepidoptera in the Adirondack Mountains of New York State. Lepidoptera were reared in order to obtain a reference collection of last instar larvae. This publication makes possible the preliminary identification of many living or preserved caterpillars, without reference to scattered technical literature. It also documents the range of larval food plant acceptability. Finally, a compilation of the world's literature in which caterpillars are depicted is provided as a useful starting point for similar studies. North temperate faunas have many genera and species in common, and knowledge of food plant preferences of close relatives from other regions allows predictions to be made concerning local species.

Historically, descriptions of caterpillars consisted of notes on color pattern, arrangement of prolegs, and food plants. Hübner, in his "Geschichte" (1793-1831), was the first to make extensive use of illustrations to depict Lepidoptera larvae. Eventually, attempts were made to classify larvae based on setal patterns, arrangement of crochets, location of glands, and other characters (Dyar, 1894; Fracker, 1915; Forbes, 1910). Presently, the hypopharyngeal complex, mandibles, antennae, integument, spinneret, and other useful characters are employed by lepidopterists. However, the fact remains that many of our most common species have never been illustrated or described.

Few papers devoted to lepidopteran host records have appeared, although some mention of such data is made in various monographs and generic revisions. Members of The Lepidopterists' Society have made a plea for papers on host records (Dominick, 1972). Recent lists of hosts for North American caterpillars include those of McFarland (1975) and Ferguson (1975). Apparently, many professional and amateur lepidopterists who make host associations choose not to publish their observations because they do not represent the first time a host for a given species has been reported. However, these data are important because they may confirm previous records or point out inter-population variability in food plant preferences.

Previously, a worldwide bibliography of larval descriptions and food plant lists did not exist. An important beginning for rearing Lepidoptera is a review of available literature for the region under study. In the case of the Adirondacks, the works of Forbes (1948, 1954, 1960),

Ferguson (1975), and Tietz (1972) are important. A selected bibliography, in which many important articles and books that feature larvae of Lepidoptera are cited, is appended to this bulletin. Short papers with single larval descriptions are not included, unless they are generic synopses or the only examples known for a particular group. Most generic revisions include larval host records, and these are not listed. Some articles or books that do not illustrate larvae are cited because they provide many host references or characters for identification of Lepidoptera larvae. Short papers on North American Lepidoptera can be located in the host index compiled by Tietz (1972), but the reader is also referred to the bibliography in Stehr (1987).

Rearing Caterpillars

Innovative methods are often needed for a successful lepidopteran rearing program. Obtaining eggs can often be difficult, because some species have specific oviposition requirements. When a female is held for oviposition, providing suitable substrates is often imperative. *Leucania* requires a hollow grass stem or tightly folded leaf blade. *Phoberia* oviposits under peeling, dead bark. *Apamea* requires flower heads of grasses. Unfortunately, my initial attempts with this genus resulted in mixed cultures because the field-collected grass heads were already oviposited upon by several *Apamea* species present in the field. Most lepidopteran species oviposit freely, however. Folded paper provides the required crevices for many other species. Often a female has to be fresh to produce eggs in captivity. Providing cuttings after depriving a female of the host plant for a day sometimes induces oviposition. Many species, especially those that are diurnal, need room to fly, and somewhat natural conditions are needed to induce oviposition. I found that a light turned on and off repeatedly at 15 minute intervals would elicit oviposition in many diurnal species, particularly if the light source was close enough to cause a slight (10°F) temperature rise within the holding chamber.

Eggs may require special handling to maintain viability. I found that eggs should be removed periodically from the oviposition chambers that are undergoing light-dark cycles because they are apparently killed by repeated temperature and humidity changes. These

changes particularly affect first instar larvae nearly ready to hatch. When first laid, some eggs take on great quantities of water and must be kept moist. On the other hand, a significant number of species have eggs that contain fully developed larvae that would readily succumb to added humidity caused by a seemingly harmless factor, such as the addition of fresh leaves to the oviposition chamber. However, species with overwintering eggs or eggs that are laid early in the spring are tolerant of excess humidity, and I have kept *Eupsilia* eggs completely immersed in water at 34°F for two months without affecting their viability. When eggs of certain species do not hatch, misting them with water often elicits eclosion.

Larvae can be collected in the field by various techniques. Commonly employed methods, such as sweeping or beating with a net, can be more productive at night, when most climbing cutworms are feeding. General, low-plant feeders will accumulate under a sheet or canvas staked flat to the ground. A cloth wrapped around a tree trunk provides daytime resting places for many climbing cutworms.

Selection of potential food plants is often confounded by the fact that many lepidopteran species have only a single known host, yet the host distribution is too limited to account for the broader range of the insect. A species may be utilizing a closely related host or even an unrelated plant that possesses the necessary phagostimulants. Frequently, a secondary plant substance, such as a coumarin, is the determining factor in host selection (Berenbaum, 1983), so what appears to be a drastic host shift is, in fact, a subtle change for the insect. Knowledge of the host for one species in a genus might allow an investigator to surmise which plants another species will find acceptable. Monophagous and oligophagous species present the most challenge in locating hosts. Some large genera, like *Oncocnemis*, have many monophagous species that feed on diverse, unrelated plants.

Certain plant species apparently have little natural resistance to browsing by larvae. These include *Taraxacum*, *Prunus*, *Achillea*, *Rhus*, *Apocynum*, and *Sambucus*. Woody perennials become less suitable as the season progresses, an occurrence linked to a buildup of tannins (Feeny, 1970, 1976). I was able to successfully rear *Trichordestra tacoma* (Stkr.) on *Prunus* from a brood collected early in the season, but failed using the

same individual plant with progeny from a female flying slightly later in the season.

Newly hatched larvae were provided with locally available plants that had been recorded as hosts or were related to a known host. Ultimately, they were reared on the plant they appeared to favor most. If no host was known for a species, a selection of the most common plants in the vicinity was provided. Often, rejected plants had been recorded as preferred hosts by other investigators from different localities. This could be a facet of inter-population variability and not necessarily an error in identification or record keeping. Rejected plants are reported in this bulletin in order to point out species that are truly monophagous or oligophagous and to demonstrate where phylogenetically closely related plants prove unacceptable. This is primarily noted in the case of first instar larvae, which are notoriously more selective than mature larvae. Oviposition in the wild was noted in several cases, and eggs have been found on unacceptable hosts on many occasions (Straatman, 1962). Mature larvae become general feeders in many species. A plant on which females oviposit and all larval instars develop well in captivity, and on which larvae are found in the field, can be considered a definitive host, at least for one locality.

Data on lepidopteran life histories were obtained from cultures started with field-collected females that were held for oviposition and from field-collected larvae. In 1977, all cultures were reared in darkness in closed metal tins. In 1980, all cultures were reared in ambient light inside clear plastic trays. In general, larvae that feed primarily at night (most noctuids) develop faster in rearing containers kept in darkness, and larvae that feed during the day (*Furcula* spp., many saturniids and butterflies) do better in clear containers subjected to ambient, though not direct, sunlight. Cultures were exposed to ambient temperatures. Larvae were reared on or collected from leaves (not stems or roots), unless otherwise specified. New growth was used when available. Fresh leaves were provided every two days.

The Host List and Rearing Notes

Individual code numbers (e.g. 77-13) were assigned to all rearings and are used to correlate identified females with their eggs, preserved larvae, pupae, adults, and

photographs that resulted from the rearings. The first part of each number indicates the year the rearing was conducted, and the last part indicates its place in the sequence of rearings that year. Code numbers were not always assigned at the same stage in the development of a brood. Frequently, they were assigned to females that failed to oviposit, thus accounting for gaps in the numbering sequence. A number might not have been assigned until it was established that the larvae would feed, thus accounting for numbers that appear to be out of sequence. On the specimen labels and photographs, my initials (as "tlm") appear before the code number (e.g. tlm 77-13). "Ex ovo" as used here means "reared from eggs obtained from a female". Voucher specimens are deposited in the insect collection of the New York State Museum.

Because the flora of New York State is well known, and I had the frequent assistance of botanical colleagues at the New York State Museum, voucher specimens of only taxonomically difficult plant groups are deposited in the Museum's herbarium.

The ink drawings were composed using a Wild microscope with an ocular grid and 10x ocular. Available objective powers were 25x and 50x, accounting for the differences in scale. When a mandible appears out of scale with the head, the higher magnification was used when drawing the former. In other publications, head setae are often illustrated as if they were combed down flat on the face, an approach that has the advantage of depicting relative lengths. This was not done in the illustrations presented here, which should be used only to determine presence or absence of setae and their points of origin.

Lepidopteran nomenclature in this bulletin is based almost entirely on the recent *Check List of the Lepidoptera of America North of Mexico* (Hodges et al., 1983), and numbers from that work precede each name given here. Photographs and drawings are also labeled with the appropriate number from the *Check List*. Species are arranged phylogenetically, following the *Check List*.

The only dates regularly given in the following list are those for oviposition, eclosion, collection, and larval maturation. Emergence dates are rarely given because artificial overwintering conditions yielded adults at unnatural times, although sudden spring emergence could indicate whether or not a species was diapausing as a

pharate adult within a pupa. Many species were reared solely for the purpose of having examples of their mature larvae, and no attempt was made to obtain adults.

Authors of plant names are given in the host plant index. Plant names follow the recent *A Checklist of New York State Plants* (Mitchell, N.Y. State Mus. Bull. 458, 1986).

All Adirondack field work reported here was conducted in a limited number of localities:

Beaver Meadow, 10 km east of Indian Lake, Hamilton County, New York, elev. 555 m, 43°45'30" N, 74°10'1" W.

South Inlet, Raquette Lake, Hamilton County, New York, elev. 520 m, 43°48'16" N, 74°36'30" W.

Browns Tract Bog, Hamilton County, New York, elev. 530 m, 43°48'00" N, 74°42'17" W.

Lake Tear of the Clouds, Essex County, New York, elev. 1310 m, 44°06'25" N, 73°56'05" W.

Ferd's Bog, Hamilton County, New York, elev. 536 m, 43°47'11" N, 74°46'27" W.

Most records are from the Beaver Meadow site, and this locality is to be assumed when no other is given.

All photographs were reproduced from color slides. The plus and minus symbols (+, -) preceding catalog numbers in the following list indicate whether or not the larva has been depicted with a photograph (first symbol) or line drawings of the head capsule and mandible (second symbol). For species that were reared, but not photographed or drawn, the symbols "--" appear before the catalog numbers. All larvae depicted in the photographs and drawings represent final instars, and the relevant date and locality data can be found in the following list.

HOST RECORDS AND REARING NOTES

Hesperiidae

—3945 **Erynnis icelus** Pack. Mature larva collected in rolled leaves of **Salix bebbiana**, July 20 (77-89). Larva overwintered. Larva light green, with brown head.

Papilionidae

+4176 **Papilio glaucus** L. Mature larva collected on **Prunus virginiana**, August 22 (77-81). Second instar larva collected on **Alnus incana**, July 2. Larva rests on mat of silk in single, partially folded leaf (77-82). Larva green, with yellow, black, and blue eyespot and yellow and black collar.

Nymphalidae

+4420 **Polygonia interrogationis** (F.). Two mature larvae found on **Urtica dioica** (80-141a & b). Adult emerged from one resulting pupa, August 22. Larva reddish brown, first and last segments with black, branched setae.

+4421 **Polygonia comma** (Harr.). Fourth instar larva collected on **Ulmus americana**, June 6 (80-81); mature larva obtained by June 13, adult emerged June 28. Larva black, with white lateral line and setae.

—4433 **Aglais milberti** (Godt.). Mature larva collected on **Urtica dioica**, August 1 (77-83b). Larva black, with white spots; spiracular line yellow, wavy, broken.

+4434 **Vanessa virginiensis** (Drury). Mature larva collected on **Anaphalis margaritacea**, September 7 (77-10). Larva black, with white lateral spots, white intersegmental transverse bands, and red subspiracular spots.

+4437 **Vanessa atalanta** (L.). Mature larva found on **Urtica dioica**, pupated August 2 (80-143). Larva black, with yellow sides.

—4491 **Charidryas harrisii** (Scudder). Second instar larvae collected on **Aster tradescantii**, August 13. Larvae gregarious and with considerable webbing (77-85a). Mature larva collected on **Aster umbellatus**, May 28 (80-155). Larva orange, with black and white mottling and a black subdorsal band.

+4522 **Basilarchia arthemis** (Drury). Mature larva collected on **Salix bebbiana** (79-80). Larva greenish brown, with a silvery saddle.

Satyridae

+4568.1 **Enodia anthedon** A. H. Clark. Mature

larva collected on grass (**Panicum** sp.) at Raquette Lake, July 22 (79-88). Larva green, with yellow-green lines.

Danaidae

+4614 **Danaus plexippus** (L.). Mature larvae collected on **Asclepias syriaca**, September 1 (80-213). Larva with yellow, white, and black transverse bands.

Thyatiridae

+6235 **Habrosyne scripta** (Gosse). Oviposited July 5, eclosed July 13, ex ovo on **Rubus idaeus**, larvae mature by August 7 (77-153). Third instar larva collected on **Rubus idaeus**, August 2 (77-152). Larva yellowish brown, with dark-brown chevrons.

+6237 **Pseudothyatira cymatophoroides** (Gn.). Oviposited June 6, eclosed June 13, ex ovo on **Rubus idaeus**. Larva fed within several folded leaves. Mature by July 10 (77-54). Larva dark brown, with silvery-white patches.

+6240 **Euthyatira pudens** (Gn.). Oviposited May 15, eclosed May 21, ex ovo on **Cornus alternifolia**. Mature larva by June 13 (80-35). Larva gray above, gradually darker on sides, and pale beneath.

Drepanidae

+6251 **Drepana arcuata** Wlk. Laid eggs in rows of three. Did not oviposit on the **Alnus incana** and **Betula** sp. provided, but on walls of rearing container. First instars accepted **Betula papyrifera** and **Alnus incana**. Ex ovo on **Alnus incana**. Late instar larvae rapidly knock heads against substrate when disturbed, producing clicking sounds. Eggs laid May 10, eclosed May 18, mature larvae by June 3. Larvae make a loose cocoon among leaves (77-13). Mature larva collected on September 11 on **Betula alleghanensis** (80-191). Larva purplish green above, green below.

+6252 **Drepana bilineata** (Pack.). Eggs laid May 26, yellow when first laid, changing to bright red, eclosed June 4, mature by June 28, ex ovo on **Betula papyrifera** (77-32). First generation adults cross-mated and larvae of this second brood mature by August 20 (77-32a). Larva cryptically marked with light and dark browns.

—6255 **Oreta rosea** (Wlk.). Oviposited July 16, ex ovo on **Viburnum cassinoides**, mature by August 17 (80-133). Larva grayish brown, with reddish-brown sides on thorax and dark brown to black inverted saddle on middle.

Geometridae

Archiearinae

--6256 **Archiearis infans** (Moesch.). Mature larva collected on **Betula papyrifera**, June 2. Adult obtained on June 8, 1978 (larvae refrigerated until June 1) (77-91a). Larva green, with white stripes (distinctive for a geometer in possessing the full complement of prolegs).

Ennominae

+-6321 **Epelis truncataria** (Wlk.). Female collected on Ferd's Bog, May 20, oviposited May 21, ex ovo on **Vaccinium myrtilloides**, mature by June 22 (80-50). Larva green, with diffuse, pink, dorsal line.

--6588 **Iridopsis larvaria** (Gn.). Mature larva collected on **Malus pumila**, adult emerged June 9 (77-76). Larva green, with red dorsal band.

+-6639 **Eufidonia discospilata** (Wlk.). Female collected at South Inlet, May 30, ova eclosed June 5, first instar larvae accepted **Vaccinium myrtilloides** and **Betula papyrifera**, mature by July 3 (80-74). Larva dark green, with pink subspiracular stripe. [Photograph, accidentally transposed, follows 6237].

--6743 **Xanthotype sospeta** (Drury). Mature larva collected on **Populus tremuloides** at night, May 28 (80-60a). Another larva collected on **Prunus virginiana** (80-60b); a third collected on **Rubus idaeus** (80-60c). Two more collected on **Viburnum cassinoides**, May 30 (80-60d,e). Larva light green, slightly darker above.

--6796 **Campaea perlata** (Gn.). Oviposited June 18, ex ovo on **Salix bebbiana**. Fourth instars appeared to be diapausing and refrigerated on August 20, none survived the winter (77-131a). Mature larva collected on **Alnus incana**, July 28 (77-132). Larva mottled brown; head pale, spotted with black.

--6799 **Epirranthis substriataria** (Hulst). Pink, oblong eggs, laid on their sides, May 4-13. Eclosion began May 19, ex ovo on **Populus tremuloides**. First instar larvae rejected **Betula papyrifera**, **Alnus incana**, **Abies balsamea**, **Larix laricina**, **Rubus idaeus**, **Pinus strobus**, **Vaccinium myrtilloides**, **Spiraea latifolia**, and **Prunus virginiana**. Larvae mature by June 10 (80-30). Larva gray, with two light dorsal stripes.

++6807 **Tacparia deterrenta** (Gn.). Bright red eggs obtained May 21, ex ovo on **Alnus incana** (77-61). Larva light brown, striped with yellow brown.

++6818 **Selenia kentaria** (G. & R.). Oviposited May 17, eclosed May 31, first instars accepted **Acer ru-**

brum and **Betula papyrifera**, ex ovo on **Betula papyrifera**, mature by July 28 (77-95). Larva orangish brown and gray.

-+6819 **Metanema inatomaria** Gn. Eggs orange when fresh, gradually changing to bright red. Oviposited June 6, ex ovo on **Populus tremuloides**, mature by July 10. Peculiar flat pupa in a weak cocoon on leaf surface (77-91). Larva blackish brown, with slightly lighter mottling.

++6822 **Metarranthis duaria** (Gn.). Elongate, oval eggs bright pink, turning to black near end of development. Oviposited May 19, eclosed May 28, ex ovo on **Spiraea latifolia**. First instars also accepted **Betula papyrifera** and **Alnus incana** but refused **Vaccinium myrtilloides** and **Prunus virginiana**, mature by June 22 (77-69). Larva light brown, with lateral white blotches on first two abdominal segments.

-+6836 **Anagoga occiduaria** (Wlk.). Oviposited May 22, first instar larvae accepted **Betula papyrifera**, **Salix petiolaris**, and **Alnus incana**, ex ovo on **Alnus incana**, mature by June 28 (77-127; 77-128). Larva light brown, with fine brown lines.

++6863 **Caripeta divisata** (Wlk.). Oviposited June 26, eclosed July 8, ex ovo on **Abies balsamea**, mature by August 8 (77-65). Larva red brown, with green lateral stripe.

++6867 **Caripeta angustiorata** Wlk. Oviposited June 26, eclosed July 8, ex ovo on **Pinus strobus**, mature by August 7. Many larvae trapped in pine resin and lost (77-9). Larva dark purplish brown, mottled with orange brown.

--6898 **Cingilia catenaria** (Drury). Mature larvae collected on bog, July 24, at South Inlet. Found feeding on **Myrica gale**, **Andromeda polifolia**, **Chamaedaphne calyculata**, and **Larix laricina**. Larvae abundant, defoliating some **Myrica gale** patches. Species not observed in 1977, but a pest in 1980 (80-150). Larva with dorsal and subspiracular yellow bands, otherwise striate with black and white.

+-6908 **Nepytia semiclusaria** (Wlk.). Mature larva collected on **Abies balsamea**. Moth eclosed September 6 (77-171). Larva green, with white subdorsal and yellow spiracular lines.

+-6963 **Tetraxis crocallata** Gn. Female oviposited May 23, eclosed June 1, ex ovo on **Sambucus canadensis** (77-51). Larvae dichromatic, with gray dorsum and purplish sides or uniform brown, with slight gray saddle on fourth and fifth abdominal segments. [Photographs presented for both forms].

++6964 **Tetracis cachexiata** Gn. Oviposited May 28, eclosed June 6. About 70 eggs laid in a raft. Ex ovo on **Betula papyrifera**. First instar larvae rejected **Thelyphteris hexagonopterix**, **Pinus strobus**, and **Abies balsamea**. Larvae mature by July 10 (77-108). Larva dark brown, with pale patches on thorax.

–+6966 **Eutrapela clemataria** (J. E. Smith). Oviposited May 21, eclosed May 30. A total of 80 eggs laid in an oval pattern in a single tier. Ex ovo on **Prunus virginiana**, mature by June 21 (77-40). Larva purplish brown.

Geometrinae

–7048 **Nemoria mimosaria** (Gn.). Oviposited May 26. Both **Abies balsamea** and **Betula papyrifera** acceptable hosts, ex ovo on the **Betula**, mature by June 28 (77-121). Larva light brown, cryptically marked with darker browns.

–7159 **Scopula limboundata** (Haw.). Mature larva collected at South Inlet on **Aronia melanocarpa**, July 2 (81-113). Larva green, with pinkish-red segmental pattern down dorsum.

Larentiinae

–7292 **Hydria prunivorata** (Ferguson). Gregarious larvae removed from an elongate web on **Prunus serotina**, September 13 (77-172). Larva black above, yellowish green below, with fine pale lines.

+7293 **Rheumaptera hastata** (L.). Ova eclosed June 15, first instars webbed leaves of **Betula papyrifera** (80-89). Mature larva collected at South Inlet on **Myrica gale** on August 25 (77-184). Larva striped in light and dark browns.

++7329 **Anticlea vasiliata** Gn. Oviposited May 23 (32 eggs), ex ovo on **Rubus idaeus**, mature by June 14 (77-107). Larva green, intersegmental areas yellow and anal segment with reddish tint. [Head capsules of two separate individuals, one showing evidence of head pattern, are illustrated].

–7474 **Eupithecia miserulata** Grt. Mature larva collected on **Salix bebbiana** in July. Adult emerged August 7 (77-70c).

–7489 **Eupithecia luteata** (Pack.). Mature larva collected on **Abies balsamea** on August 3. An adult emerged from resulting pupa on June 25, 1978 (77-123).

+7637 **Cladara limitaria** (Wlk.). Oviposited May 20, eclosed May 28. First instar larvae rejected **Larix laricina**. Ex ovo on **Abies balsamea** (80-56). Larva green, with white lateral stripes.

–7641 **Lobophora montanata** Pack. Mature larva collected on **Populus tremuloides**, June 27, adult emerged from resulting pupa on June 25, 1978 (77-174).

Lasiocampidae

++7673 **Tolyte laricis** (Fitch). Oviposited August 7. Ova refrigerated until June 7, 1978, eclosed June 29. First instars ate **Tsuga canadensis**, **Pinus strobus** and **Larix laricina**, but clearly preferred **P. strobus**. Mature by July 21 (77-97). Larva grayish brown, with white patch on first abdominal segment.

+7687 **Phyllodesma americana** (Harr.). Oviposited June 1, ex ovo on **Prunus virginiana**, mature by June 25 (79-12). Larva bluish gray, with faint, striate, orange markings.

++7698 **Malacosoma disstria** Hbn. Mature larva collected on **Prunus virginiana**, June 6 (80-214). Larva blue, with broken orange subdorsal and spiracular lines and with white "keyhole" pattern down dorsum.

+7701 **Malacosoma americanum** (F.). Mature larva collected on **Prunus virginiana**, June 10 (80-215). Larva striped with blue, yellow, and black and with a white dorsal stripe.

Saturniidae

+7715 **Dryocampa rubicunda** (F.). Fourth instar larva collected on **Acer rubrum**, August 3. Moth emerged on May 3, 1978 (77-151). Larva green, with black spines and orange head.

–7757 **Antheraea polyphemus** (Cram.). Penultimate instar larva collected on **Salix bebbiana**, July 31 (77-135). Larva grass-green, with red spiracles and narrow yellow transverse bands.

Sphingidae

+7786 **Ceratonia amyntor** (Geyer). Ova eclosed July 28, ex ovo on **Ulmus americana**, mature by September 1 (80-136). Larvae dichromatic, with a green and a pinkish-brown color phase.

++7809 **Sphinx kalmiae** J.E. Smith. Oviposited June 6, eclosed June 13, ex ovo on **Fraxinus americana** (77-94). Larva green, with black and yellow obliques and a blue horn.

++7810 **Sphinx gordius** Cram. Mature larva collected on **Spiraea latifolia**, September 12 (80-186). Another mature larva collected on **Myrica gale**, September 13 (80-187). Larva green, with red spiracles and black, pink, and white obliques.

—+7817 **Lapara bombycoides** Wlk. Oviposited June 29, ex ovo on **Pinus strobus**. Larvae did not withstand crowding, reared individually (77-35). Larva green and white striped.

+—7821 **Smerinthus jamaicensis** (Drury). Mature larva collected on **Salix bebbiana**, August 23. Adult emerged on April 11, 1981 (80-189). Larva green, with pink horn and pale obliques.

—7822 **Smerinthus cerisyi** Kby. Mature larva collected on **Salix bebbiana**, September 5 (77-38). Larva green, with yellow obliques.

+—7825 **Paonias myops** (J.E. Smith). Ova eclosed June 22, ex ovo on **Prunus virginiana**, mature by July 18 (80-92). Two mature larvae collected on **Prunus virginiana** on August 23. Adults emerged April 10, 1981 (80-188). Larva green, with yellow obliques and red spots.

+—7828 **Pachysphinx modesta** (Harr.). Oviposited June 15, ex ovo on **Populus tremuloides**, mature by July 27 (77-116). Larva green, with pale obliques and red spiracles.

+—7853 **Hemaris thysbe** (F.). Ex ovo on **Viburnum cassinoides**, mature by August 1 (80-139). Another larva collected on **Viburnum cassinoides** on August 10, it pupated August 13 (80-170). Larva blue green above; spiracles marked with red.

+—7886 **Darapsa pholus** (Cramer). Female collected at South Inlet. Ova eclosed July 1, ex ovo on **Viburnum cassinoides**, mature by August 12 (80-111). Mature larva collected on **Viburnum cassinoides**, August 20 (80-175). Larva green, with red spiracles and bluish-white sides.

Notodontidae

+—7895 **Clostera albosigma** Fitch. Oviposited May 28, eclosed June 6, ex ovo on **Populus tremuloides**. Larvae produced large amounts of webbing, mature by June 22 (77-6). Larva light yellow, with a fine dorsal stripe and a broad, gray-brown lateral stripe.

+—7896 **Clostera inclusa** (Hbn.). Mature larva collected on **Salix bebbiana**, September 6, with unusual yellow head, diseased and failed to pupate (77-176). Larva purplish gray with yellow setal bases.

+—7901 **Clostera apicalis** Wlk. Ova eclosed July 3, ex ovo on **Populus tremuloides**, mature by July 23 (80-110). Larva violet gray with black head.

++7915 **Nadata gibbosa** (J.E. Smith). Oviposited May

28, eclosed June 8, ex ovo on **Fagus grandifolia**. First instar larvae rejected **Acer rubrum**, **Prunus serotina**, **Salix petiolaris**, **Alnus incana**, and **Betula papyrifera**; they fed sparingly on **Amelanchier arborea**. Mature by June 28 (77-80). Larva blue green, dotted with white and with a yellow lateral stripe; mandibles orange.

+—7919 **Peridea basitriens** (Wlk.). Ova eclosed August 5, ex ovo on **Acer saccharum**, mature by September 1 (80-156). Larva green, with spiracular line pink, fading to yellow.

++7922 **Pheosia rimosa** Pack. Oviposited May 22, eclosed May 29, ex ovo on **Populus tremuloides**. First instar larvae also accepted **Salix petiolaris**, rejected **Betula papyrifera**. Larvae mature by June 16 (77-148). Larva violet gray.

++7924 **Odontesia elegans** (Stkr.). Ova eclosed August 19, ex ovo on **Populus tremuloides**. Later instars attacked each other. Larvae mature by September 7 (80-180). Another brood reared ex ovo on **Populus tremuloides**, mature by July 28 (77-70a). Larva silvery gray, with slight purplish cast.

+—7926 **Notodonta scitipennis** Wlk. Fourth instar larva found molting, September 10, fed on **Populus tremuloides** (77-157). Larva violet gray, with orange markings on anal hump.

+—7929 **Nerice bidentata** Wlk. Mature larva collected on **Ulmus americana**, October 5 (77-175). Larva blue green, with tubercles tipped with yellow; broken reddish subspiracular line.

+—7930 **Ellida caniplaga** (Wlk.). Oviposited May 20, ex ovo on **Tilia americana** (80-48). Larva reddish purple, with white and yellow dorsal rectangles.

++7931 **Gluphisia septentrionis** Wlk. Oviposited May 21, eclosed May 28, ex ovo on **Populus tremuloides**. First instar larvae produced large amounts of webbing. Mature by June 19 (77-154). Larva light green, with yellow subdorsal line.

+—7934 **Gluphisia lintneri** (Grt.). Oviposited May 29, ex ovo on **Populus tremuloides**, mature by June 23 (77-105, 77-106). Larva blue green above and green below, with yellow spiracular line.

—7936 **Furcula borealis** (Guer.-Meneville). Ova eclosed July 3. First instar larvae accepted **Prunus virginiana**, but eventually died (80-101). First instar larva with black body; stemapods with two yellow bands.

--7937 **Furcula cinerea** (Wlk.). Ova eclosed July 3 (80-100) and July 14 (80-120). First instar larvae fed on **Salix bebbiana** and **Populus tremuloides**. Another female produced ova, eclosed July 13, ex ovo on **Salix bebbiana**, mature by August 20 (80-121). First instar larva with two dorsal yellow rectangles on abdomen and two yellow bands on stemapods. Mature larva yellow green, with purplish-brown dorsal markings; saddle mottled with yellow.

++7939 **Furcula occidentalis** (Lint.). Oviposited May 27, eclosed June 4, ex ovo on **Salix petiolaris**. First instar larvae rejected **Salix bebbiana** and **Prunus virginiana**. Larvae matured, but failed to pupate; **Furcula** grow poorly reared in darkness, as were these, but grow well cultured in clear containers (77-124). A mature larva collected on **Salix bebbiana** on September 4 (77-125). Larva yellow green, with brown saddle, edged below with yellow (77-124, first photo presented, plus the drawing). Field-collected larva (77-125, second photo presented in plates) very blue green.

++7940 **Furcula scolopendrina** (Bdv.). Ova eclosed July 23. First instar larvae rejected **Prunus virginiana**, but accepted **Populus tremuloides**, mature by September 1 (77-171). Larva similar to **F. modesta**, but with yellow-green spots in saddle.

--7941 **Furcula modesta** (Hudson). Ova eclosed July 29, first instar larvae fed on **Salix rigida** and **Populus tremuloides**, mature by August 23, (80-149). First instar larvae with yellow dorsal patches on body. Mature larva yellow green, with black markings and saddle. Larva similar to **F. scolopendrina**, but with ochre spots in saddle.

++7953 **Symmerista leucitys** Franc. Ex ovo on **Acer rubrum**, larvae gregarious, mature by September 1 (77-102). Larva yellow, striped with black, and with an orange caudal hump.

+7958 **Dasylophia thyatiroides** (Wlk.). Oviposited July 15, eclosed July 21, ex ovo on **Fagus grandiflora**, mature by August 12 (80-130). Larva purplish brown, marked with black above, and broad yellow and white lateral stripe.

+7994 **Heterocampa guttivitta** (Wlk.). Ova eclosed June 24. First instar larvae rejected **Acer rubra** and **Spiraea latifolia**, but accepted **Malus pumila** and **Acer saccharum**, mature by July 18 (80-95). Larva dark, with reddish and yellow dorsal pattern, no green (larva illustrated by Laplante [1985] was mostly green).

++7995 **Heterocampa biundata** Wlk. Oviposited May 25, eclosed June 1, first instar larvae grew poorly.

Only four of 100 reached second stadium on **Acer rubrum**, but these matured by June 28 (77-34). Larva grass green, with bluish dorsal markings and brown lateral spots.

+8006 **Schizura badia** (Pack.). Ova eclosed July 30, ex ovo on **Viburnum cassinoides**, mature by August 19 (80-142). Larva with front third green, middle purple, and posterior third mottled yellow green and white.

++8007 **Schizura unicornis** (J.E. Smith). Oviposited July 13, ex ovo on **Prunus virginiana**. First instar larvae also accepted **Salix petiolaris**. Cultures smelled strongly of acetic acid produced by a cervical gland. Mature by August 10 (77-163). Another mature larva collected on **Prunus virginiana**. Overwintered as prepupa inside cocoon (77-163a). Larva with thorax green, abdomen dark brown, marked with white.

+8011 **Schizura leptinoides** (Grt.). Oviposited July 4, eclosed July 14, ex ovo on **Fagus grandifolia**, mature by August 23 (80-116). Larva brown, marked with dark brown.

Arctiidae

Lithosiinae

+8043 **Eilema bicolor** (Grt.). Oviposited July 21. Ova pink, laid in circle of seven with eighth egg at center. First instar larvae rejected **Abies balsamea**, **Salix bebbiana**, **Prunus virginiana**, **Spiraea latifolia**, **Solidago** sp., **Glyceria canadensis**, **Populus tremuloides**, **Myrica gale**, **Rubus idaeus**, **Polygonum** sp., **Apocynum androsaemifolium**, and lichens, but fed on the alga, **Protococcus viridis**; mature by October 2 (80-137). Brower (1974) reported it from **Abies**, but larvae probably fed on epiphytic algae present; Laplante (1985) reported it on lichen, but free-living algae probably present. Larva gray black, with yellow subdorsal and subventral lines.

--8098 **Clemensia albata** Pack. Oviposited August 6, eclosed August 16, only three large eggs obtained. Reared on lichen, **Hypogimnium** sp. After several weeks, reached second instar, but eventually died (77-5). Later, found (McCabe, 1981) this species feeding on a free-living algae, **Protococcus viridis**. Larva green, mottled with brown.

Arctiinae

+8157 **Phragmatobia lineata** Newman & Donahue. Ova obtained from female collected in the daytime, on Browns Tract Pond bog, May 27, 1982. First instar lar-

vae rejected *Salix rigida*, *Phleum pratense*, and *Populus tremuloides*; accepted *Apocynum androsaemifolium*, *Spiraea latifolia*, and *Asclepias syriaca*. Ex ovo on *Spiraea*, mature by July 22. Less than 10% pupated; remainder overwintered (82-37). Despite intensive collecting efforts, no adults were collected at light. Larva with black front, remainder with reddish-brown hairs.

+ -8158 *Phragmatobia assimilans* Wlk. Mature larva collected on *Apocynum androsaemifolium* on August 21 (77-113b). Many larvae observed wandering. Single reared pupa failed to yield adult, identification tentative. Larva with rather stiff, uniform, yellowish hairs.

- -8162 *Platartia parthenos* (Harr.). Oviposited July 16, eclosed July 24. First instar larvae accepted *Taraxacum officinale*, *Vaccinium myrtilloides*, and *Apocynum androsaemifolium*. Diapaused as early instar larvae (80-132).

+ +8166 *Arctia caja* (L.). Mature larva collected on *Eupatorium maculatum*, June 15; fed on *Plantago major* in captivity (77-36). A field-collected female oviposited August 5, eclosed August 14; first instar larvae fed on *Populus tremuloides*, *Taraxacum officinale* and *Pteridium aquilinum* (reared on this) but refused *Plantago*. Second and third instars overwintered (77-36a). Larva black, with white hairs above and reddish hairs below.

- +8203 *Halysidota tessellaris* (J.E. Smith). Penultimate instar larva collected on *Rubus idaeus*, September 13, molted September 19 (80-190). Larva with dense yellowish hair and black and white hair-pencils.

+ +8214 *Lophocampa maculata* Harr. Mature larva collected on *Alnus incana*, August 7 (77-113). Larva black, with longest hairs white, and with midsection yellow.

- -8230 *Cyenia tenera* Hbn. Mature larva collected on *Apocynum androsaemifolium*, September 7 (77-161). Larva with soft, grayish-white hairs.

Lymantriidae

+ -8293 *Dasychira dorsipennata* (B. & McD.). Mature larva collected in daytime on *Prunus virginiana* (80-65). Larva gray, with black hair tufts.

- +8294 *Dasychira vagans* (B. & McD.). Oviposited June 30, eclosed July 13, ex ovo on *Betula papyrifera*. Early instars failed to overwinter (77-164a). A second female produced ova, eclosed August 2. First instar lar-

vae accepted *Ulmus americana*, rejected *Abies balsamea*. Diapaused as early instar larva (80-147).

- = 8304 *Dasychira plagiata* (Wlk.). Oviposited June 24, eclosed July 8, ex ovo on *Pinus strobus*. Second instars did not feed, diapaused (77-134a). Two additional broods, ova eclosed July 18, first instar larvae accepted *Abies balsamea* and *Pinus strobus*, but also diapaused as early instar larvae (80-126, 80-127).

+ +8308 *Orgyia antiqua* (L.). Mature larva collected on *Salix bebbiana*, September 7, pupated September 10; adult female emerged September 21. Female used to attract wild male; mated, and resulting ova refrigerated until June 7, 1978. Larvae eclosed June 23, 1978; reared on *Betula alleghanensis* (77-11). Last instar larvae sexually dichromatic: first and second pencil tufts yellow in male, brown in female. Penultimate female larvae identical to ultimate instar male larvae, but undergo additional molt. Field-collected, overwintering eggs found May 26, eclosed May 29, ex ovo on *Alnus incana* (80-55). A caterpillar collected on *Spiraea latifolia* pupated; resulting female mated with a field-collected male; resulting eggs overwintered; larvae fed on *Corylus americana* (80-299). Larva similar to *O. leucostigma*, with three pairs of subdorsal red dots posterior to hair tufts.

+ -8316 *Orgyia leucostigma* (J.E. Smith). Mature larva collected on *Populus tremuloides*, July 28 (80-144), yielded a female, mated with a wild male, resulting ova overwintered, eclosed May 27, 1981; larvae reared on *Corylus americana* (80-144a). Another mature larva collected on *Myrica gale*, August 1 (80-144b). Third mature larva collected on *Alnus incana*, August 3 (80-144c). Larva with red head, yellow abdominal and subventral stripes, with two red middorsal dots posterior to hair tufts.

Noctuidae

Herminiinae

+ +8349 *Polypogon protumnusalis* (Wlk.). Oviposited July 19; first instar larvae fed on *Monotropa uniflora*, later instars fed on dead *Corylus* leaves; first instar larvae rejected living and dead *Thuja* leaves, dead *Pinus* needles, dead wood, and lichens; mature by September 29 (77-138). Larva red brown, with yellow spiracular and black spiracular lines.

+ +8351 *Polypogon cruralis* (Gn.). Four eggs laid on June 29, ex ovo on dead leaves of *Thuja*, *Abies*, and *Corylus cornutus*, mature by September 10 (77-52). Larva light brown, with faint orange intersegmental bands at rear.

Catocalinae

+ -8536 **Calyptra canadensis** (Bethune). Mature larva collected on **Thalictrum pubescens**, early June; adult emerged June 28 (77-39). Six mature larvae collected on **Thalictrum pubescens**, June 6 (79-8a-f). Larva white with broken, black, lateral band; yellow spiracular spots; and light green venter.

++8555 **Scoliopteryx libatrix** (L.). Oviposited May 30, ex ovo on **Salix bebbiana**, mature by June 27 (80-67). Mature larva collected on **Betula papyrifera**, June 27 (77-103). Another mature larva collected on **Salix petiolaris**, August 3, with dull, silver patches on thoracic segments in prepupa; adult emerged August 15 (77-104). Larva green, with white lateral stripe lightly outlined below with black.

+ -8689 **Zale lunata** (Drury). Mature larva collected on **Prunus serotina**, August 3, resting among lichens on trunk in daytime (77-177). Larva light green, marked with black.

+ -8697 **Zale minerea** (Gn.). Oviposited May 9, eclosed May 17, ex ovo on **Salix petiolaris**. First instar larvae rejected **Prunus serotina**, **Betula papyrifera**, **Pinus strobus**, and **Abies balsamea**; fed sparingly on **Salix bebbiana**; mature by June 8 (77-115). Second female oviposited May 25; larvae eclosed June 1, ex ovo on **Salix bebbiana**, mature by July 7 (77-70). Larva brown, irregularly marked with lighter brown.

+ -8698 **Zale phaeocapna** Franc. Pale green eggs laid May 21, eclosed May 29, ex ovo on **Corylus cornuta**; larvae mature by July 1. First instar larvae rejected **Acer rubra**, **Pinus strobus**, **Abies balsamea**, **Larix laricina**, **Alnus incana**, **Betula papyrifera**, **Salix rigida**, and **Prunus virginiana**. Resulting pupae refrigerated until March 30, adults emerged April 1, 1981 (80-64) (see McCabe, 1987). Larva blue-green, with fine, yellow striations.

- -8703 **Zale duplicata** (Bethune). Oviposited May 11, eclosed May 18, ex ovo on **Pinus strobus**. First instar larvae preferred new growth, mature by June 10 (77-70). A second female produced ova which eclosed June 16. First instar larvae offered **Betula papyrifera**, **Larix laricina**, **Abies balsamea** and **Pinus strobus**; fed on only the latter (80-90). Larva mottled brown.

+ -8727 **Parallelia bistriaris** Hbn. Third instar larva collected on **Acer rubra**, August 19, pupated in a rolled leaf (77-178). Larva gray, with fine, black striations.

+ -8776 **Catocala coelebs** Grt. Female collected at South Inlet, October 9, 1980; eggs overwintered; larvae

reared on **Comptonia peregrina** (known host, **Myrica gale**, not available in new location). Mature by July 1, 1981 (80-206). Larva dark, with fine, white striations.

+ -8803 **Catocala relictata** Wlk. Oviposited September 15, eclosed June 25, 1978, ex ovo on **Salix rigida** (77-145). Larva silvery gray.

+ -8858 **Catocala crataegi** Saund. Mature larva beat from **Crataegus** sp., June 8, near Pleasant Valley, New York (82-66). Larva gray.

Plusiinae

+ +8881 **Abrostola urentis** Gn. Laid (125 eggs), July 1, ex ovo on **Urtica dioica**, larvae mature by July 28 (77-164). Larva light green, mottled with darker green chevrons and with white subspiracular line.

- -8896 **Diachrysia aeroides** (Grt.). Oviposited July 21, eclosed July 26. First instar larvae rejected **Spiraea latifolia**, fed on **Aster umbellatum** and **Solidago** sp. (80-131). Mature larva collected on **Solidago** sp., September 17, failed to pupate (77-186). Larva green, with white lateral line and some fine white lateral striations.

- -8897 **Diachrysia balluca** Gey. Mature larva collected on **Rubus idaeus**, June 2; snapped its head violently from side to side when a tachinid fly attempted to oviposit (79-7). Larva green, with yellow spiracular line outlined above with darker green.

- -8904 **Chrysanympha formosa** (Grt.). Oviposited July 21, eclosed July 28; first instar larvae accepted **Vaccinium myrtilloides**. Diapaused as second instar larva (80-138). Larva very similar to **Eosphoropteryx thyatyroides**.

+ -8905 **Eosphoropteryx thyatyroides** (Gn.). Two mature larvae collected on **Thalictrum pubescens**, June 20, pupated June 22 (80-91). Larva green, with bluish-violet and dark-green dorsal obliques.

++8908 **Autographa precationis** (Gn.). Ex ovo on **Plantago major** and **Taraxacum officinale**; larvae mature by September 20 (77-135b). Larva green, with white spiracular stripe edged dorsally by black.

+ +8911 **Autographa bimaculata** (Stephens). Oviposited August 8, eclosed August 14, ex ovo on **Taraxacum officinale** and **Plantago major**, mature by September 5 (77-33). Another female produced ova, eclosed August 13. First instar larvae fed on **Urtica dioica** and **Taraxacum officinale**, ex ovo on **Urtica dioica**, mature by September 23 (80-166). Larva grass-green, with thin, white spiracular line.

—8912 *Autographa mappa* (G. & R.). Oviposited July 20, ex ovo on *Taraxacum officinale* (80-129). A second female collected at Raquette Lake, ex ovo on *Taraxacum officinale* (83-24).

++8923 *Autographa ampla* (Wlk.). Oviposited July 12, eclosed July 17; first instar larvae accepted *Alnus incana*, *Betula papyrifera*, *Salix bebbiana* and *Prunus virginiana*; ex ovo on *Prunus virginiana*; third instar larvae diapaused, refrigerated August 10, but died (77-7a). Another female oviposited July 13; first instar larva accepted *Salix rigida* and *Myrica gale*; ex ovo on the *Salix* (80-119). A third female oviposited on July 16; first instar larvae also accepted *Salix rigida* and *Myrica gale* (80-127). Larva green, with narrow, yellow spiracular line and two white, subdorsal lines — the lower one wavy and extending to prothorax, almost forming obliques. A larva from Colorado had three subdorsal lines, but resulting adult agreed in habitus and genitalia with Adirondack specimens.

—8924 *Anagrapha falcifera* (Kby.). Ex ovo on *Taraxacum officinale*, mature by September 18 (77-71b). Larva green, with white spiracular line; spiracles white, ringed with black.

+8927 *Syngrapha epigaea* (Grt.). Ova eclosed September 8; first instar larvae fed on *Vaccinium myrtilloides*. Overwintered as early instar larvae (80-192). Larva green, with white spiracular stripe.

—8939 *Syngrapha alias* (Ottol.). Oviposited July 21, eclosed July 26. First instar larvae fed on *Picea glauca* and *Abies balsamea*; rejected *Vaccinium myrtilloides*; ex ovo on the latter. Most larvae diapaused and failed to overwinter, but one penultimate instar larva obtained in the autumn (80-134). Penultimate instar larva green, with white subdorsal, supraspiracular and subspiracular stripes; setal bases black; head orange.

—8940 *Syngrapha abstrusa* Eichlin & Cunningham. Oviposited July 21, eclosed July 26. First instar larvae offered *Picea glauca*, *Abies balsamea* and *Vaccinium myrtilloides*; fed only on the *Abies*. Apparently overwintered as early instar larvae (80-135).

+8942 *Syngrapha rectangula* (W. Kby). Oviposited August 5, eclosed August 12, ex ovo on *Abies balsamea*. Second instar larvae diapaused (77-144a). A mature larva collected on June 13 on *Abies balsamea* (80-80). Larva green, prominently striped with white as in *S. alias*; head green.

+8946 *Syngrapha microgamma* (Hbn.). Oviposited June 26, eclosed July 2, ex ovo on *Vaccinium myrtilloides*. Larvae rejected *Plantago*, *Trifolium repens*,

Spiraea latifolia, *Taraxacum officinale*, *Achillea millefolium*, *Glyceria maxima*, and *Vicia cracca*, but accepted *Fragaria virginiana*. Diapausing second and third instars obtained by October 15, all died during the winter (77-89a). A penultimate and an ultimate instar larva collected at South Inlet on blossoms of *Chamaedaphne calyculata*, produced a weak cocoon. Adult emerged May 31 (80-40). Larva pinkish brown above, with broad yellow spiracular stripe.

+8950 *Plusia putnami* Grt. Oviposited June 30 (140 eggs), ex ovo on *Glyceria maxima*. First instars also accepted *Phleum pratensis*, but rejected *Juncus*. Diapaused as second instars (77-140b). A second female oviposited July 4, eclosed July 11, ex ovo on *Glyceria maxima* (80-115). Larva blue green, with white subspiracular stripe.

+8952 *Plusia contexta* Grt. Oviposited August 7, eclosed September 16, ex ovo on *Glyceria maxima*. Overwintered as third and fourth instars (77-49a). A second female oviposited July 16, eclosed July 21. First instar larvae accepted *Glyceria maxima*. Mature by August 20 (77-49b). Larva green, with very narrow, yellow, dorsal and subdorsal lines, and slightly broader spiracular line.

Sarothripinae

+8970 *Baileya ophthalmica* (Gn.). Oviposited May 24, eclosed May 30. Female refused to oviposit until leaves of *Alnus* provided. First instar larvae accepted *Alnus incana* and *Betula papyrifera*, but seemed to prefer the *Betula* and reared on it. Larvae mature by June 28 (77-130). A second female oviposited May 31, ex ovo on *Corylus cornuta*, mature larvae by July 1 (80-71). Larva dark green, with narrow yellow dorsal and lateral lines.

Acontiinae

+9022 *Exyra rolandiana* Grt. Mature larvae collected from unopened flower heads of *Sarracenia purpurea* at South Inlet, June 6, one larva per blossom (77-149a-f). Larvae previously reported (Forbes, 1954) to feed on inside of basal leaf (the "pitcher"), staying just above water line. Larva brown, with intersegmental areas pale.

—9053 *Pseudeustrotia carneola* (Gn.). Mature larva collected on *Rumex patientia*, September 8, pupated September 10; adult emerged April 14, 1981 (80-211).

+9065 *Leuconycta dipteroides* (Gn.) (77-179): Third instar larva collected on *Aster tradescantii*, August 4;

resulting pupa refrigerated until June 7, 1978; adult emerged on July 1 (77-179). Mature larva collected on **Aster tradescantii**, August 7 (77-179a). Mature larva collected on **Solidago** sp., August 12 (77-179b). Larva green, with white, spiracular stripe becoming reddish near head.

Pantheinae

++9177 **Panthea acronyctoides** (Wlk.). Ex ovo on **Abies balsamea**, mature by August 10 (77-2a). Larva white, mottled brown to black, with broken, yellow, subspiracular stripe.

—+9183 **Panthea pallescens** McD. Oviposited July 4, eclosed July 15, ex ovo on **Pinus strobus**, mature by August 30 (77-79). Larva brown, mottled with white; white dorsal and subspiracular lines.

—+9184 **Colocasia flavicornis** (Sm.). Ex ovo on **Betula papyrifera**; first instar larvae accepted **Alnus incana** and **Acer rubrum**, mature by July 1, adults emerged July 20 to August 10 (77-73, 77-33a). Larval integument dark, anal hair tuft black. Anterior body hairs sometimes rufous.

—+9185 **Colocasia propinquilinea** (Grt.). Oviposited June 5, eclosed June 13, ex ovo on **Betula papyrifera**, mature by July 28 (77-137). Larval integument black to orange, setae white with hair tufts black and orange, anal tuft orange. Anterior body hairs sometimes rufous.

++9189 **Charadra deridens** (Gn.) (80-75): Oviposited June 7, ex ovo on **Betula papyrifera** (80-75). Another brood ex ovo on **Betula papyrifera**, mature by July 28 (77-60a). Larval color variable; integument black or white, but both color phases with white hairs; head black, with yellow front.

++9193 **Raphia frater** Grt. Oviposited June 27, eclosed July 7, ex ovo on **Populus tremuloides**, mature by August 1 (77-78). Five eggs obtained from a second female on May 29, eclosed June 5, ex ovo on **Populus tremuloides** (77-1). Larva green, with three yellow, transverse bands.

Acronictinae

+—9200 **Acronicta americana** (Harr.). Second instar larva collected on **Acer rubrum** (77-7). Penultimate instar larva collected on **Acer rubrum**, mature by September 1 (80-167). Larva with bright yellow body hair, black head.

++9203 **Acronicta dactylina** Grt. Ova laid in late May, ex ovo on **Alnus incana**. One female produced 360

eggs (77-59). A mature larvae collected on **Salix bebbiana**, September 4 (77-57). Several larvae collected on **Alnus incana** (77-58a-g). Larva with rust-colored body hairs and black hair tufts.

—+9212 **Acronicta grisea** Wlk. Oviposited May 27, eclosed June 2, ex ovo on **Betula papyrifera**, mature by June 30 (77-84). Mature larva collected on **Salix pe-tiolaris**, August 4 (80-151). Larva green, with brown dorsal stripe.

++9226 **Acronicta superans** Gn. Captive females did not oviposit; a fertile egg dissected from female, May 30, eclosed June 5, ex ovo on **Prunus nigra**, also fed sparingly on **Betula papyrifera**. Mature by June 30 (77-158). Larva green, with broad, dark, dorsal band edged with white (see cover for photograph).

++9229 **Acronicta hasta** Gn. Oviposited May 24, eclosed May 30, ex ovo on **Prunus virginiana**, mature by June 19 (77-86). Larva purplish black, with dark red middorsal stripe.

+—9235 **Acronicta spinigera** Gn. Oviposited June 29, eclosed June 5, ex ovo on **Ulmus americana**. First instar larvae also fed sparingly on **Malus pumila**, but rejected **Populus tremuloides**. Mature by July 28 (77-156) (see McCabe, 1980). Larva silvery gray; head with orange transverse bar.

—+9236 **Acronicta morula** G. & R. Ex ovo on **Ulmus americana**, mature by August 1 (77-120a). Larva marked with brown and black; apex of head brick red.

++9241 **Acronicta fragilis** (Gn.). Oviposited May 24, eclosed May 30, ex ovo on **Betula papyrifera**. First instar larvae rejected **Populus tremuloides**. Mature by June 19 (77-76, 77-77). Larva green, with brown dorsal stripe.

++9249 **Acronicta increta** Morr. Oviposited June 30, eclosed July 7, ex ovo on **Corylus cornuta**. Known hosts, including **Quercus** and **Hamamelis**, did not occur in the area. Mature by August 20 (77-85). Larva with reddish-brown dorsal stripe and paired, yellow, dorsal spots.

+—9257 **Acronicta impleta** Wlk. Oviposited June 4, ex ovo on **Ulmus americana**, mature by July 23 (79-24). Larva black; hairs light brown; subspiracular stripe red.

++9259 **Acronicta noctivaga** Grt. Oviposited May 28, eclosed June 4, ex ovo on **Spiraea latifolia**. First instar larvae also accepted **Populus tremuloides** and **Salix bebbiana**, rejected **Abies balsamea** (77-122). A second female oviposited May 27, eclosed June 3, ex ovo on

Populus tremuloides; first instar larvae rejected **Plantago major**, **Rubus idaeus**, **Daucus** sp., and **Taraxacum officinale** (77-123). A third female oviposited May 25; first instar larvae accepted **Quercus rubra** and **Vaccinium myrtilloides**, second instar larvae fed on **Spiraea latifolia**; reared to maturity by July 3 on **Spiraea** (80-52). A fourth female oviposited June 19, eclosed June 27; first instar larvae accepted **Apocynum androsaemifolium**, **Populus tremuloides**, and **Vaccinium myrtilloides** (80-112). Larvae black, with red lateral stripe and stiff bristles.

+ - 9260 **Acrionicta auricoma** (F.). Two mature larvae collected on sucker of **Populus tremuloides**, July 31 (77-122a). Larvae bright orange, with stiff bristles.

+ + 9261 **Acrionicta impressa** Wlk. Mature larva collected on **Myrica gale** at South Inlet (77-185). Larva white and orange, with soft hair.

+ + 9272 **Acrionicta obliterata** (J. E. Smith). Mature larva collected on **Myrica gale** at South Inlet, August 25; resulting pupa refrigerated until June 14; adult emerged July 5, 1978 (77-180). Larva dark, with prominent, yellow, subspiracular squares.

+ + 9281 **Agriopodes fallax** (H.-S.). Ex ovo on **Viburnum cassinoides**, mature by July 28 (77-71). Caterpillars with a pungent odor, reminiscent of decaying **Viburnum** leaves in late autumn. Larva green, with reddish blemishes.

+ + 9286 **Harrisimemna trisignata** (Wlk.). Ova eclosed June 30, ex ovo on **Spiraea latifolia**, mature by August 1 (80-99). Larva mostly black, with white saddle (bird-dropping mimic).

Amphipyridae

- - 9360 **Apamea impulsiva** (Gn.). Laid 36 ova on **Glyceria maxima** seed capsules, August 10; first instar larvae ate seeds, then dropped to ground and fed on grass blades; third instars diapaused, but failed to survive the winter (80-173). (Many other **Apamea** species utilized the same seed capsules as oviposition sites, and it was difficult to find seed capsules without ova in the field. **Apamea** adults fed on the blossoms of grasses as well.)

- - 9367 **Apamea dubitans** (Wlk.). Mature larva found wandering on ground, June 8, rejected **Fragaria**, **Achillea** and **Prunus**; fed only on grasses, reared on **Glyceria canadensis**; prepupa by June 14; adult emerged July 21 (80-86).

- - 9382 **Apamea devastator** (Brace). Female ovipos-

ited in **Glyceria canadensis** seed-heads, ova eclosed August 6; first instar larvae fed within the seed; second instar larvae dropped to ground and fed on grass blades. Diapaused as second and third instars, but failed to survive the winter (80-169).

+ - 9419 **Oligia mactata** (Gn.). Oviposited September 18, 1980; ova overwintered, eclosed May 12, 1981; first instar larvae fed on **Betula populifolia** and **Cornus sericea**; ex ovo on the former (80-212). Larva yellow brown, with faint, black-edged lateral line.

- - 9520 **Achatodes zeae** (Harr.). Mature larvae removed from stalk of **Sambucus canadensis**, mid-June; adult emerged June 28 (77-169). Larva white, with black head, shield, and tubercles.

+ + 9523 **Bellura gortynoides** Wlk. Several batches of eggs laid, each one covered with hairs from apex of female's abdomen. First instar larvae mined leaves of **Nuphar luteum**; later instars bored in stems; matured by July 20 (77-62). Several third instar larvae collected at South Inlet, July 23 (77-63). Mature larva collected from submerged stems of **Nuphar luteum** at South Inlet (80-177). Larva dark brown, with orange head, shiny.

+ + 9545 **Euplexia benesimilis** McD. Mature larva collected on **Osmunda cinnamomea**, July 28 (77-26). Several second and third instar larvae swept from **Thelypteris novaborecensis**, July 28 (77-28). A female oviposited June 14, ova eclosed June 21; first instars accepted **Alnus incana** and **Pteridium aquilinum**, rejected **Betula papyrifera** and **Viburnum cassinoides**; mature by July 15 (77-29). Larva light brown, with two white dorsal spots at rear.

+ + 9546 **Phlogophora iris** Gn. Oviposited June 10, eclosed June 19, ex ovo on **Vaccinium myrtilloides**; first instar larvae rejected **Plantago major**, **Alnus incana**, and **Vicia cracca**, accepted **Taraxacum officinale**; matured by August 20; mature larvae diapaused (77-92). Larva light brown, with darker chevrons and a series of small, pale "key hole" patterns down dorsum.

- - 9547 **Phlogophora periculosa** Gn. Ova eclosed August 22, ex ovo on **Spiraea latifolia** (80-183). Two mature larvae collected on **Spiraea latifolia** at night (80-58); another collected on **Alnus incana**, and a fourth on **Viburnum cassinoides** (80-58a&b). Larvae spun weak cocoons on the ground.

- - 9556 **Chytonix palliatricula** (Gn.). Mature larva collected on smut-infested, senescent **Aster** blossom; fed on the smut, **Ustilaginales** (77-181). Larva dark-brown, with white, metathoracic, subdorsal spot; head with prominent, black, transverse bands.

–+9578 **Hyppa xylinoides** (Gn.). Oviposited August 13, ex ovo on **Vaccinium myrtilloides**, mature by September 24 (77-167). A second female laid eggs that eclosed July 12, ex ovo on **Vaccinium myrtilloides** (80-118). Larva dark brown, with bluish wash on sides [figures of mandible and head is of brood 77-167].

+ +9578.1 **Hyppa xylinoides**, segregate 1. Oviposited July 9, eclosed July 15, ex ovo on **Vaccinium myrtilloides**, mature by August 21. These represent the “middle brood” of uncertain status (77-8). Larva dark brown, with bluish wash on sides.

+ +9582 **Nedra ramosula** (Gn.). Oviposited August 7, eclosed August 14, ex ovo on **Hypericum perforatum**; first instar larvae also accepted **Hypericum mutilum**, **H. canadense**, **H. virginicum**, rejected **Viola selkirkii**; mature by September 6 (77-143). A fourth instar larva collected on **Hypericum perforatum**, September 7 (77-144). Larva purplish brown, with broad, pale yellow, subspiracular stripe.

–+9631 **Callopietria mollissima** (Gn.). Oviposited July 6 on undermargins of bracken fern leaf, eclosed July 13, ex ovo on **Pteridium aquilinum**. All instars fed on lower surface of leaf; first three instars failed to chew through both epidermal layers of leaf (77-117). Penultimate instar larva collected on **Thelypteris novaboreacensis**, July 28 (77-118). Larva brown, with conspicuous white chevrons.

+ +9633 **Callopietria cordata** (Ljungh). Oviposited June 21, ex ovo on **Pteridium aquilinum**; larva fed on ventral side of leaf, mature by July 20 (77-119). Larva green, rarely reddish, with white obliques and red spots.

+ –9639 **Amphipyra tragopoginis** (Cl.). Mature larva collected in daylight on **Apocynum androsaemifolium**, June 28 (80-97). Larva green, with subdorsal and spiracular lines white.

Cuculliinae

+ –9873 **Xylena nupera** (Lint.). Oviposited May 6, eclosed May 14, ex ovo on **Prunus virginiana**; young and mature larvae refused **Alnus incana**; all larvae (> 200) of brown phase (80-31). Mature, green-phase larva collected on **Spiraea latifolia**, July 3 (80-113). Larva dichromatic, green or brown; brown phase with black dorsal band; spiracles red.

– –9874 **Xylena curvimacula** (Morr.). Third instar larva collected at night on **Spiraea latifolia**, June 28, mature larva pupated in August, yielded adult September 23 (77-53). Larva light brown; spiracular line pale; dorsal chevrons slightly darker brown.

+ –9878 **Lithomoia solidaginis** (Hbn.). Penultimate instar larva collected on **Salix bebbiana**, Lake Durant (Hamilton County), May 27, molted June 8 (82-54). Three penultimate instar larvae collected on **Spiraea latifolia**, June 1, molted June 6, pupated, June 15 (80-88a,b,c). Larva dark brown, with whitish subspiracular stripe.

+ –9884 **Litholomia napaea** (Morr.). Oviposited May 6, ex ovo on **Populus tremuloides**, matured by June 20 (80-33). A second female oviposited May 20, ex ovo on **Populus tremuloides** (80-51). Larva brown, with black chevrons.

– –9887 **Lithophane bethunei** (G. & R.). Oviposited May 21, eclosed May 25; first instars accepted **Amelanchier arboreum** and **Betula papyrifera**, ex ovo on **Amelanchier arboreum**, mature by June 21 (77-30). Larva gray brown above, with fine, orange, dorsal and subdorsal lines and a pale yellow spiracular stripe.

+ –9891 **Lithophane amanda** (Sm.). Oviposited May 6, eclosed May 18, ex ovo on **Salix bebbiana**, mature by June 10 (80-34). Larva blue green, with white dorsal and spiracular lines.

+ –9902 **Lithophane baileyi** Grt. Oviposited April 14, ova refrigerated for 19 days, eclosed May 7. Eclosion normal except that fresh eggs died. Ex ovo on **Prunus virginiana**, mature by May 30 (77-25). Another brood of first instar larvae offered **Alnus incana** died (80-36). Larva green, with fine, white, dorsal and subdorsal lines.

– –9915 **Lithophane grotei** Riley. Oviposited May 27, eclosed May 31, ex ovo on **Prunus virginiana**, mature by June 22 (80-63). Another female oviposited May 16, ex ovo on **Prunus virginiana** (80-39). Larva green, lightly freckled with blue-green.

– –9917 **Lithophane fagina** Morr. Oviposited May 6, eclosed May 15; first instar larvae were offered **Amelanchier arborea**, **Rubus odoratus**, **Alnus incana**, **Prunus virginiana**, **Larix laricina**, **Abies balsamea**, **Salix bebbiana**, **Spiraea latifolia**, **Betula papyrifera**, **Sambucus canadensis**, and **Populus tremuloides**; fed sparingly on all, but grew best on the **Betula**; grew slowly to third instar, then died (80-32).

+ –9922 **Lithophane pexata** Grt. Oviposited May 16, eclosed May 21, ex ovo on **Alnus incana**, mature by June 15 (77-133). Another female oviposited May 11, eclosed May 19, ex ovo on **Alnus incana**, mature by June 23 (80-27). Larva green, with white dorsal, subdorsal, and spiracular lines.

– –9928 **Lithophane thaxteri** Grt. Mature larva col-

lected at South Inlet on **Chamaedaphne calyculata**, June 20. Moth emerged in autumn, but failed to expand wings (80-220). Larva bluish green, with white dorsal and subdorsal lines and yellow spiracular lines.

—9930 **Pyreferra citrombra** Franc. Oviposited April 13; about 70% of 300 eggs refrigerated 19 days eclosed; larvae rejected **Alnus incana**, **Betula alleghaniensis** and **Ribes** sp.; first instars accepted **Salix humilis** and **Salix petiolaris** but all died (77-39). Known hosts (**Hamamelis** and **Corylus**) rare or absent in study area.

—9935 **Eupsilia tristigmata** (Grt.). Laid 190 eggs April 14, eggs refrigerated for 19 days, eclosed May 8, ex ovo on **Amelanchier arborea**. First instar larvae also fed on **Prunus serotina**, but preferred **Amelanchier** blossoms. Mature by June 4 (77-162). Larva purplish brown above, with yellowish subspiracular line.

+9936 **Eupsilia morrisoni** (Grt.). Oviposited April 14, eggs refrigerated for 19 days, eclosed May 7, five days after warming, all of the eggs submersed in water, but still viable. Ex ovo on **Prunus virginiana**, mature by June 3 (77-120). Larva dark brown, with white subspiracular line and violet prothoracic venter and cervical shield.

—9980 **Xylotype arcadia** B. and Benj. Mature larva collected on **Kalmia polifolia** at Browns Tract Bog, May 25 (77-170). Larva brown, with silvery subspiracular stripe, black spiracular line, and black dorsal chevrons.

+9987 **Mniotype ducta** (Grt.). Female collected, Lake Tear of the Clouds, July 10; two of twenty eggs eclosed; first instar larvae rejected **Pteridium aquilinum**, **Vaccinium myrtilloides**, **Abies balsamea**, **Rubus idaeus**, **Populus tremuloides**, **Apocynum androsaemifolium**, **Betula papyrifera**, and **Glyceria maxima**. Ex ovo on **Myrica gale** (80-114). Larva rose above, green below; head orange.

++10005 **Feralia jocosa** (Gn.). Female laid 110 eggs, May 8, ex ovo on **Abies balsamea**, mature by June 12 (77-93). Melanic female oviposited May 9, ex ovo on **Abies balsamea** (80-29). Larva green, with white dorsal, subdorsal, spiracular, and ventral lines; spiracular line edged red above.

—10007 **Feralia major** Sm. Female collected May 20, ex ovo on **Pinus strobus** (80-45). Larva green, with white dorsal, subdorsal, spiracular, and ventral lines; spiracular line edged red above (distinguishable from **F. comstocki** and **F. jocosa** by the evenness of the subdorsal line).

++10008 **Feralia comstocki** (Grt.) (77-42): Oviposited

May 24, eclosed June 2, ex ovo on **Abies balsamea**. Parental female an unusual, brown-spotted form; a single adult emerged the following spring — also brown-spotted. Broods 77-43 through 77-46 from blue-green females and brood 77-47 from a dark-green female. All larvae ex ovo on **Abies** and no differences observed among the larvae. Broods 80-68 to 80-69, 80-82 to 80-85, ex ovo on **Abies balsamea**. Larva green, with white dorsal, subdorsal, spiracular, and ventral lines; spiracular line edged red above; subdorsal line crenulate (indistinguishable from **F. jocosa**).

—10021 **Copivaleria grotei** (Morr.). Oviposited May 21, eclosed June 10, ex ovo on **Fraxinus americana**; larva matured by July 10 (80-46). Larva light green, with yellowish lines.

+10057 **Apharetra dentata** Grote. Two mature larvae collected at Browns Tract Ponds on **Kalmia polifolia**, June 26, adult emerged July 17. Mature larva accepted **Vaccinium myrtilloides** in captivity (80-124). Larva brown, with gray-brown dorsal and lateral lines.

+10123 **Oncocnemis piffardi** (Wlk.). Oviposited September 19, ova refrigerated October 15, returned to room temperature June 14, 1978, eclosed June 22, 1978. First instars rejected **Thapsus**, **Taraxacum**, **Veronica**, **Eupatorium**, **Achillea**, **Phleum**, **Chrysanthemum**, **Plantago**, **Fraxinus**, **Penstemon**, **Vaccinium**, **Asclepias**, **Solana**, **Thuja**, **Populus**, **Rubus**, **Betula**, **Hypericum**, **Viburnum**, **Acer**, **Quercus**, **Pteridium**, **Solidago**, **Populus**, **Abies**, and others; accepted **Spiraea latifolia** (see McGuffin, 1958a; McCabe, 1985) (77-134). Third and fourth instar larvae defoliated numerous patches of **Spiraea latifolia** (79-20). Another female oviposited August 22, some eggs eclosed September 6 and larvae died; other eggs eclosed the following May 17, ex ovo on **Spiraea latifolia** (80-184). Larva light brown, with silvery gray striae and double brown dorsal line.

++10197 **Cucullia florea** Gn. Oviposited June 19, eclosed June 25; first instars accepted **Heiracium aurantiacum** blossoms, rejected **Trifolium repens**, **Vicia cracca**, **Spiraea latifolia**, **Chrysanthemum**, and **Glyceria maxima**. Ex ovo on **Heiracium** until the blossoming period ended; larvae cannibalistic and the surviving larva was accidentally killed in fourth stadium (77-74). A penultimate instar collected on **Aster umbellatus**, August 23 (77-75). A mature larva collected on **Aster umbellatus**, September 6 (77-22). Four mature larvae collected on **Aster umbellatus** from August 18-30 (77-155). Larva green, with yellow dorsal and whitish subspiracular stripes.

++10202 *Cucullia convexipennis* G. & R. Mature larva collected on *Aster umbellatus*, September 4 (77-50). Fourth instar collected on same plant, August 15 (77-50a). Larva with red dorsal band, blue and black abdominal lines, and yellow and white sides.

Hadeninae

--10275 *Polia nimbose* (Gn.). Oviposited July 13, ex ovo on *Salix petiolaris*, *Alnus incana*, and *Betula papyrifera*. Third and fourth instar larvae diapaused (77-121a).

--10276 *Polia imbrifera* (Gn.). Ex ovo on *Betula papyrifera*. Second and third instar larvae diapaused (77-91b).

--10280 *Polia purpurissata* (Grt.). Oviposited August 17, ex ovo on *Vaccinium myrtilloides*, third and fourth instar larvae diapaused (77-140a). Larva brown, with faint dorsal and subdorsal lines.

--10288 *Polia detracta* (Wlk.). Ova eclosed July 8, ex ovo on *Betula populifolia* (81-119). Larva reddish brown.

--10291 *Morrisonia latex* (Gn.). Oviposited June 6, 200 eggs laid, eclosed June 12, ex ovo on *Alnus incana*. Larvae mature by July 19 (77-98). Larva yellow brown, lighter below, mottled with darker browns; spiracular line fine, black.

++10292 *Melanchra adjuncta* (Gn.). Mature larva collected on *Thalictrum pubescens*, August 21 (77-3). Larva green, with darker green chevrons.

++10294 *Melanchra pulverulenta* (Sm.). Oviposited June 27, eclosed July 3, ex ovo on *Larix laricina*, matured by August 4. Some adults emerged in October, other individuals overwintered as pupae and eclosed the following spring (77-140). Larva yellow, with dark brown dorsal and spiracular lines.

++10295 *Melanchra assimilis* (Morr.). Oviposited June 29; first instars accepted *Solidago* sp., *Betula papyrifera*, *Alnus incana*, *Salix bebbiana*, and *Pteridium aquilinum*. First instars rejected *Vaccinium myrtilloides*. Ex ovo on the *Pteridium aquilinum*, mature by August 4 (77-14). Fourth and sixth instar larvae collected September 4 on *Aster umbellatus* (77-16a,b). Many larvae collected on *Aster umbellatus*, *Rubus idaeus*, *Pteridium aquilinum*, and *Verbascum thapsus*, September 7 (77-15a-p). Mature larva collected on *Myrica gale*, September 1 (77-21). Several fifth and sixth instar larvae swept from *Chamaedaphne calyculata* and *Ledum groenlandi-*

cum at Browns Tract Ponds, but fed sparingly on these in captivity, readily accepted *Myrica gale* and *Larix laricina* (77-18). Mature larva collected on *Salix bebbiana*, parasitized, tachinid eggs glued to thorax (77-17). Larva collected on *Salix rigida*, September 9 (77-19). Late instar larva swept from *Myrica gale* at South Inlet, August 25 (77-20). Larvae dichromatic, either green or brown, both with yellow, subdorsal and subspiracular stripes.

--10298 *Lacanobia radix* (Wlk.). Oviposited May 25, eclosed May 31, 250 eggs laid in two batches, ex ovo on *Betula papyrifera*. First instar larvae also accepted *Salix petiolaris* and *Alnus incana*, mature by June 30 (77-142). Larva grayish brown, with black dorsal wedges.

--10299 *Lacanobia subjuncta* (G. & R.). Fourth instar larva collected on *Thalictrum pubescens*, August 17 (77-181). Larva green, mottled with brown.

++10301 *Spiramater lutra* (Gn.). Oviposited June 4, eclosed June 10, ex ovo on *Alnus incana*. First instars also offered *Salix rigida*, but grew poorly on it (77-110). Mature larva collected on *Salix bebbiana*, on September 7 (77-109). Mature larva collected on *Aster umbellatus*, September 7 (77-109a). Third instar larva collected on *Vaccinium myrtilloides*, August 28 (77-111). Larva green to yellow green; chevrons barely traceable to well-marked with brown.

++10303 *Trichordestra tacoma* (Stkr.). Oviposited May 27, 70 eggs laid, eclosed June 2. First instar larvae accepted *Sambucus canadensis*, *Vaccinium myrtilloides*, *Prunus virginiana*, *Spiraea latifolia*, *Betula papyrifera*, *Apocynum androsaemifolium*, and *Rubus idaeus*, fed on various flowering heads of grasses, but not those of *Carex*; rejected *Viola selkirkii*, *Abies balsamea*, and *Carex* sp. Mature by July 28 (see McCabe & Godfrey, 1982) (77-159). Larvae dichromatic, the green phase being unmarked, the red phase having a yellow subspiracular stripe and a finely striated, reddish upper body.

++10304 *Trichordestra legitima* (Grt.). Penultimate-instar larva collected on *Aster umbellatus*, September 7 (77-100). Mature larva collected on *Salix bebbiana*, September 12; moth emerged July 16, 1978 (77-99). Mature larva collected on blossoms of *Achillea millefolium*, August 22 (77-101). Larva with orange-brown head, purplish-brown body, yellow subdorsal and subspiracular stripes, and black spiracular stripe.

++10406 *Lacinipolia olivacea* (Morr.). Oviposited August 4, eclosed August 12, ex ovo on *Achillea millefo-*

lium. First instar larvae also accepted **Plantago major** and **Trifolium repens**, but rejected **Fragaria canadensis**. Mature by September 20 (77-129). Larvae ate pupae left in rearing container. Larva gray brown.

++10436 **Aletia oxygala** (Grt.). Oviposited August 7. Eggs collected from **Carex** stem upon which female was observed ovipositing. Ex ovo on **Glyceria maxima**. Fourth instars diapaused (77-130a). Larva light brown, striped in various shades of brown.

--10438 **Pseudaletia unipuncta** (Haw.). Oviposited May 20, ex ovo on **Glyceria maxima**, mature by June 22 (80-49). Larva brownish gray, with brown and black dorsal lines and a violet-gray ventral stripe.

+ -10446.1 **Leucania lapidaria** (Grt.). Female observed ovipositing in folded blade of grass just after sunset on July 31. Ex ovo on **Glyceria canadensis**, mature by October 2 (80-148). Larva striped in browns.

+ -10447 **Leucania commoides** Gn. Ova laid in folded grass blade, ex ovo on **Glyceria maxima**. A female emerged on November 4. The first male appeared on November 8 (80-146). A second female oviposited on August 12, eclosed August 23, ex ovo on **Glyceria canadensis** (80-182). Body striped in browns, grays, and black.

++10487 **Orthosia rubescens** (Wlk.). Oviposited May 14, eclosed May 20, ex ovo on **Alnus incana**. Also accepted **Rubus idaeus**, but first instar larvae rejected **Abies balsamea**, **Spiraea latifolia** and **Betula papyrifera**. Mature by June 15 (77-150). Larva yellowish white subventrally, with black lateral stripe.

++10490 **Orthosia revicta** (Morr.). Oviposited May 8, eclosed May 14, ex ovo on **Spiraea latifolia**, first instar larvae rejected **Betula papyrifera**, mature by June 5 (77-147). Four ova collected on **Spiraea latifolia**, eclosed June 3, ex ovo on **Spiraea**; resulting pupae refrigerated until March 30; adults emerged March 31 (80-87). Penultimate-instar larvae collected on **Spiraea**, June 1 (80-88). Larva light brown, with broad white spiracular stripe.

--10495 **Orthosia hibisei** (Gn.). Oviposited May 15, eclosed May 22. Larvae grew slowly to third instar on **Alnus incana**, then given **Populus tremuloides**; matured June 12 (77-80).

++10513 **Egira dolosa** (Grt.). Oviposited May 9, eclosed May 16, ex ovo on **Populus tremuloides**. All stages produced webbing. Mature by June 10 (77-67). Fifth instar larva collected, August 2, on **P. tremuloides** (77-66). Larva grayish-white, with black dorsal patches.

++10518 **Achatia distincta** Hbn. Oviposited May 27, eclosed June 3, ex ovo on **Alnus incana**. First instar larvae also accepted **Betula papyrifera**. Larvae mature by June 20 (77-64). Larva grass green (including head) with four narrow white stripes on sides.

++10521 **Morrisonia confusa** Hbn. Oviposited May 25, eclosed May 31; first instars accepted **Salix petiolaris** and **Betula papyrifera**; rejected **Vaccinium myrtilloides**; ex ovo on the **Betula**; matured by July 10 (77-49). Penultimate-instar larva collected on **Betula papyrifera**, August 3; pupated but yielded no adult; female pupa dissected and the genitalia compared to confirm identification (77-48). Mature larva collected on **Myrica gale** on Ferd's Bog, July 28 (80-145b). Two mature larvae collected on **Betula papyrifera** (80-145). Larva knits two leaves together loosely. Larva with dark-brown head, a gray-green body, two narrow white stripes, and a series of lateral, purplish, segmental blotches.

++10532 **Homorthodes furfurata** (Grt.). Reared ex ovo on **Achillea millefolium**, matured by September 2 (77-79a). Larva, glassy dark brown to black.

+ -10578 **Pseudorthodes vecors** (Gn.). Oviposited June 29, ex ovo on **Achillea millefolium**, mature by August 21 (77-182). Larva brown, with weakly developed chevrons at rear.

++10587 **Orthodes cynica** Gn. Fourth instar larva collected on developing blossoms of **Solidago** sp. (77-56). A brood oviposited June 18, eclosed June 26, ex ovo on **Taraxacum officinale**, **Plantago major**, and **Cirsium** sp., matured August 25. First instars rejected **Achillea millefolium**, **Solidago** sp., **Vaccinium myrtilloides** and **Spiraea latifolia**. Later instar larvae fed on **Solidago** and **Achillea** (77-55). Larva brown, with slight purplish cast.

Noctuinae

--10659 **Agrotis volubilis** Harv. Oviposited June 6, eclosed June 13, ex ovo on **Achillea millefolium**. First instar larvae rejected **Plantago major**, **Fragaria virginiana**, **Trifolium pratense**, and **Vicia cracca**. Matured by August 7 (77-165). Larva dark gray-brown, lighter below.

+ -10663 **Agrotis ipsilon** (Hufn.). Mature larva found wandering on ground, June 12 (77-183). Glassy-brown, with setal bases prominent dark brown. [Photograph out of sequence, after 10999]

--10903 **Euagrotis illapsa** (Wlk.). Oviposited August

22, eclosed August 30-September 6. First instar larvae rejected *Taraxacum officinale*, *Spiraea latifolia*, accepted *Phleum pratense*. Later instar larvae fed on *Taraxacum* and *Vicia cracca*. Most overwintered as early instar larvae (80-185). Larva light brown, with broken, black, subdorsal line (slightly swollen at center of segments), whitish and brown lateral stripes, and black spiracular dots.

—10919 *Diarsia jucunda* (Wlk.). Mature larva found on ground among *Alnus* on May 16. Fed on *Taraxacum officinale* and pupated (80-12). Larva brown above, darker brown below, and fine, black lateral line. With slightly darker brown dorsal and sublateral lines.

—10926 *Spaelotis clandestina* (Harr.). Mature larva found on ground, pupated, June 23 (80-94).

—10929 *Eurois occulta* (L.). Oviposited July 12, eclosed July 17, ex ovo on *Spiraea latifolia*. Third instars refrigerated October 15, but died overwinter (77-128a).

+10930 *Eurois astricta* Morr. Four mature larvae collected on *Spiraea latifolia* at night; most parasitized by tachinids (80-57). Mature larva collected on *Prunus serotina*, June 7, with tachinid egg (80-76). Larva with traces of orange on top of head, dark grayish-purple body and dorsal chevrons edged with yellow ventrally.

—10942 *Xestia adela* Franc. Two first instar larvae collected on *Monotropa uniflora* flower heads. Third instar given *Rubus idaeus* and *Plantago major*, and larva matured; adult moth emerged November 21 (77-41). One brood reared on *Taraxacum officinale* and larvae mature by July 10 (77-41a). Larva brown, lighter below, with distinct, subspiracular demarcation between upper and lower body colors; a distinct black chevron on eighth abdominal segment.

—10943 *Xestia normanianus* (Grt.). Ova eclosed August 12, ex ovo on *Rubus idaeus* (80-165). A second brood fed on *Rubus idaeus* and *Spiraea latifolia*, but rejected *Vaccinium myrtilloides* (80-154).

++10944 *Xestia smithii* (Snell.). Oviposited August 8, eclosed August 17. First instar larvae accepted *Rubus idaeus*, *Fragaria virginiana*, and *Sambucus canadensis*, ex ovo on the *Rubus*. Diapausing 4th – 5th instars obtained by October 15 (77-154a). Larva with unmarked gray-brown body and orange-brown head.

—10947 *Xestia oblata* (Morr.). Oviposited July 21, ex ovo on *Spiraea latifolia*, and *Salix bebbiana*. Third instar larvae diapaused by August 22. First instars rejected *Vaccinium myrtilloides* (77-123a).

+10950 *Xestia bicarnea* (Gn.). Oviposited August 6, eclosed August 12, ex ovo on *Glyceria maxima*. First instar larvae also fed on *Glyceria canadensis*, rejected *Vaccinium myrtilloides*, *Achillea millefolia*, *Betula papyrifera*, *Rubus idaeus*, *Urtica dioica*, *Apocynum androsaemifolium*, and *Sambucus canadensis* (77-31). Larva brown, with black spiracles, tan spiracular line, and weak dorsal pattern of dark brown diamonds.

+10951 *Xestia tenuicula* (Morr.). Oviposited September 11, ex ovo on *Glyceria maxima*, mature by October 18. Two adult females emerged November 15 (80-193). Larva similar to *X. bicarnea*, but with slightly less prominent spiracular line and no dorsal pattern.

—10968 *Xestia badicollis* (Grt.). Ova eclosed August 15. First instar larvae fed on *Abies balsamea*, rejected *Aster umbellatus*, *Vaccinium myrtilloides*, *Viburnum cassinoides*, *Betula papyrifera*, *Acer rubra*, *Pteridium aquilinum*, *Populus tremuloides* and *Rubus idaeus* (80-171). Another female oviposited August 4, eclosed August 15; first instar larvae accepted *Pinus strobus*, rejected *Vaccinium myrtilloides*, *Abies balsamea* and *Larix laricina*; stopped feeding in second stadium and diapaused (77-24).

+10970 *Xestia youngii* (Sm.). Oviposited August 26, eclosed September 1; first instar larvae initially accepted *Vaccinium myrtilloides*, but all died by September 10 (77-166). Another brood did the same (apparently first or second instar larvae diapause) (77-168). Third instar larvae swept daytime from *Chamaedaphne calyculata* (80-66). Several third instar larvae collected on *Myrica gale* at night, May 29, matured on *Vaccinium myrtilloides*. Above records from South Inlet. Larva with orange-brown head, and flesh-colored body, black subdorsal chevrons becoming more conspicuous posteriorly.

+10988 *Eugraphe subrosea* (Steph.). Third instar larvae swept from *Chamaedaphne calyculata*, South Inlet (79-86a). Two mature larvae collected at South Inlet on *Myrica gale* (79-86b). One larva parasitized by an ichneumonid wasp. Larva with a thin yellow subdorsal line, followed by an orange lateral line, a dark brown spiracular line, a cream subspiracular line, and a black subventral line.

—10992 *Paradiarsia littoralis* (Pack.). Oviposited July 6, eclosed July 13; first instars accepted *Prunus virginiana*, *P. serotina*, *Alnus incana*, *Sambucus canadensis*, *Pteridium aquilinum*, *Betula papyri-*

fera, *Achillea millefolium*; rejected *Fragaria canadensis*, *Solidago* sp., *Abies balsamea*, *Thuja occidentalis*, *Rubus idaeus*, *Vaccinium myrtilloides*, *Salix bebbiana* and *Spiraea latifolia*; third instars diapaused (77-107a,b).

—10993 *Hemipachnobia monochromatea* Morrison. Oviposited July 12, eclosed July 19; first instars accepted young leaves of *Vaccinium myrtilloides*; second instars diapaused (77-119a).

+—10994 *Cerastis tenebrifera* (Wlk.). Oviposited May 19, approximately 40 eggs, ex ovo on *Taraxacum officinale*. First instar larvae also accepted *Rubus idaeus*, *Salix petiolaris*, *Prunus virginiana*, *Betula papyrifera*; rejected *Plantago major*. Matured by June 12 (77-160). Another female oviposited May 22, eclosed May 28, ex ovo on *Vaccinium myrtilloides* (80-44). Larva brown, with slight violet tinge, black chevrons, and reddish-brown subspiracular stripe.

—10997 *Metalepsis fishii* (Grt.). Oviposited May 16, ex ovo on *Vaccinium myrtilloides*, feeding first on the blossoms. First instars rejected *Alnus incana*, *Betula papyrifera*, *Taraxacum officinale*, *Abies balsamea*, *Salix petiolaris*, and *Prunus virginiana*. Larvae matured by June 23 (77-72).

+—10999 *Aplectoides condita* (Gn.). Ex ovo on *Larix laricina*, matured August 15 (77-47a). A second female produced ova which eclosed June 28, ex ovo on *Larix laricina*, matured by August 26 (80-96). A third brood eclosed July 11, ex ovo on *Larix laricina*. First instar larvae rejected *Pinus strobus*, *Betula papyrifera*, *Alnus incana*, *Sambucus canadensis*, *Prunus virginiana*, *Spiraea latifolia*, and *Salix bebbiana* (80-123) (see McCabe, 1988). Larva light brown, with weakly developed, darker brown, lateral chevrons. Larva from Albany grew well on *Vaccinium myrtilloides*.

+—11001 *Anaplectoides pressus* (Grt.). Oviposited July 5, ex ovo on *Sambucus canadensis*. First instars also accepted *Salix petiolaris*, *Larix laricina*, *Vicia cracca*, *Betula papyrifera*, and *Alnus incana*; rejected *Abies balsamea*, *Pinus strobus*, and *Tsuga canadensis*. Matured September 20. Many fourth instars diapaused (77-136). Another female produced ova that eclosed July 12 (80-117). Head and body brown, marked with black.

—11004 *Protolampra rufipectus* (Morr.). Mature larva collected on *Spiraea latifolia* at night, May 28 (80-59).

—11008 *Eueretagrotis perattentus* (Grt.). Ovipos-

ited July 8. Third and fourth instars diapaused by August 22, but none survived the winter. First instars fed on *Rubus idaeus*, *Pteridium aquilinum*, *Fragaria canadensis*, *Abies balsamea*, *Vaccinium myrtilloides*, *Salix bebbiana*, and *Betula papyrifera*; ex ovo on *Betula*; first instar larvae rejected *Spiraea latifolia* (77-131b).

+—11009 *Eueretagrotis attentus* (Grt.). Oviposited July 8, eclosed July 16. First instars accepted *Fragaria canadensis*, *Betula papyrifera*, and *Sambucus canadensis*; rejected *Vicia cracca*, *Pinus strobus*, *Vaccinium myrtilloides*, *Pteridium aquilinum*, and *Abies balsamea*; ex ovo on *Betula*. Penultimate instar larvae diapaused; refrigerated on August 27; only one survived the winter. Four days after warming it molted, then fed on *Betula alleghaniensis* (77-23). Larva dark brown above, lighter brown below spiracular line.

+—11012 *Cryptocala acadiensis* (Bethune). A female oviposited on *Hypericum perforatum* blossoms, July 17. First instars accepted *Hypericum perforatum* blossoms, *Sagittaria latifolia* blossoms, and *Sambucus canadensis*, *Prunus virginiana*, *Achillea millefolium*, and *Spiraea latifolia* leaves; rejected *Rubus idaeus*, *Vaccinium myrtilloides*, *Pteridium aquilinum*, and *Amelanchier arborea*. Ex ovo on the leaves of *Apocynum androsaemifolium*, matured by September 12 (77-2) (see McCabe, 1979). Another brood reared ex ovo on *Rumex patientia*, mature by October 1 (80-157). Larva light brown, with white dorsal and subdorsal lines.

Heliethinae

+—11062 *Eutricopis nexilis* Morr. Female moths observed at blossoms of *Antennaria neglecta*, May 27; mature larvae collected from blossoms, June 11. Infested blossoms prematurely bloomed, larvae ate seeds (80-53). Larva brownish white, with weak, brown, dorsal and lateral lines.

+—11064 *Pyrria exprimens* (Wlk.). Oviposited June 28, eclosed June 2. Moth oviposited on *Aquilegia* blossoms. First instar larvae accepted *Aquilegia vulgaris* blossoms, *Fragaria virginiana* blossoms, *Pontederia* blossoms, and *Apocynum androsaemifolium* leaves and blossoms. Ex ovo on *Apocynum* (80-104). Larva extremely polychromatic, ranging from green to black and white, with various intermediate phases having yellow or orange markings.

—11164 *Schinia florida* (Gn.). Mature larva on seed capsules of *Oenothera biennis*, August 26 (80-216). Larva glassy green, with slight rose coloring near head.



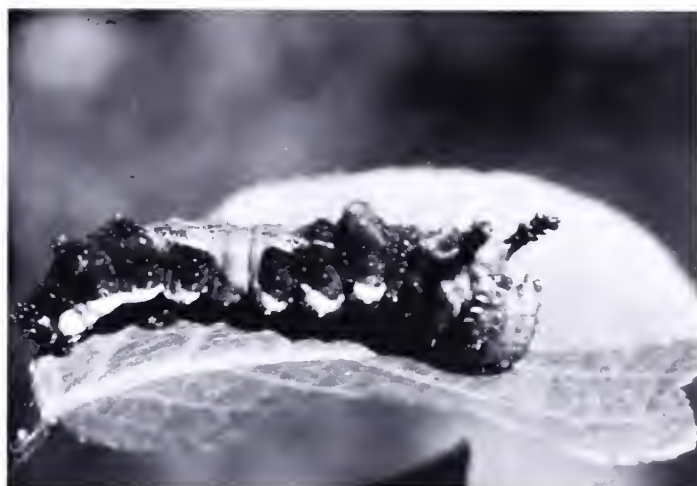
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Vanessa atalanta



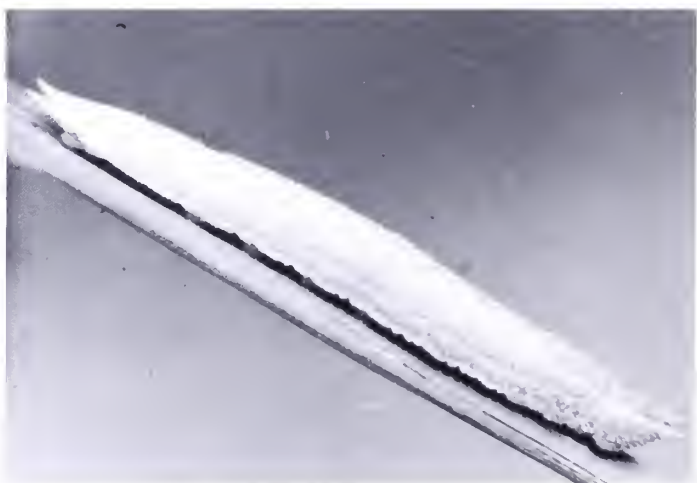
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4522
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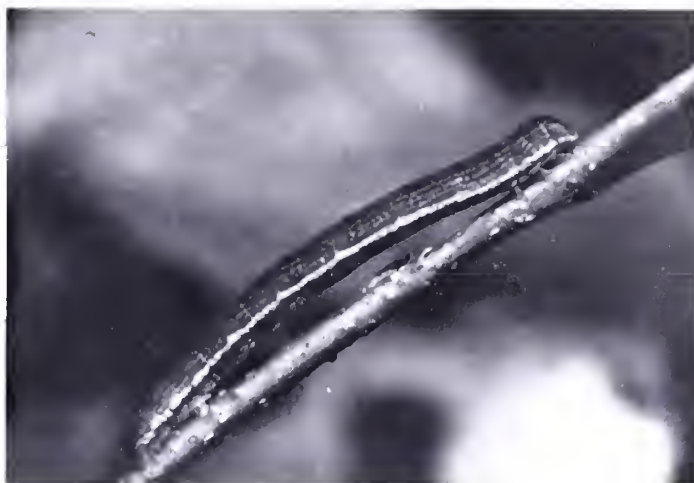
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Polygonia comma



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Danaus plexippus



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Habrosyne scripta



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Euthyatira pudens



6237
Pseudothyatira cymatophoroides



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Drepana arcuata



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Drepana bilineata



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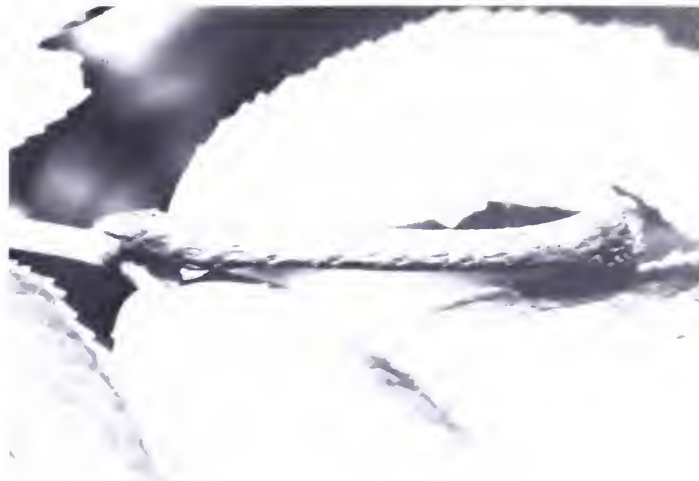


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6867

Caripeta angustiorata



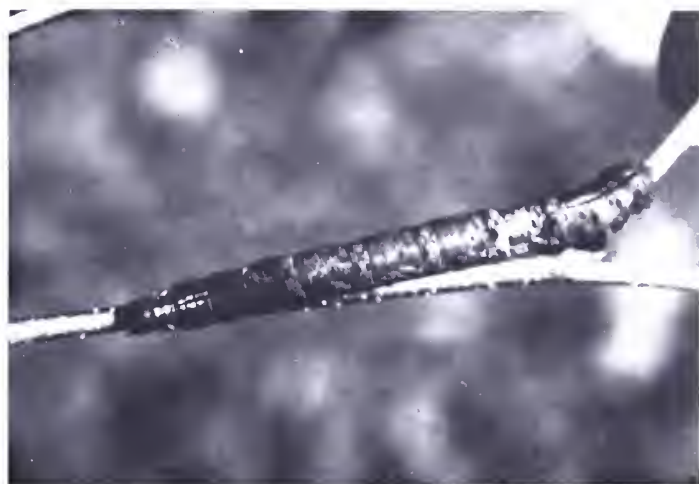
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Tetracis crocallata



6906

Nepytia semiclusaria



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Tetracis cachexiata



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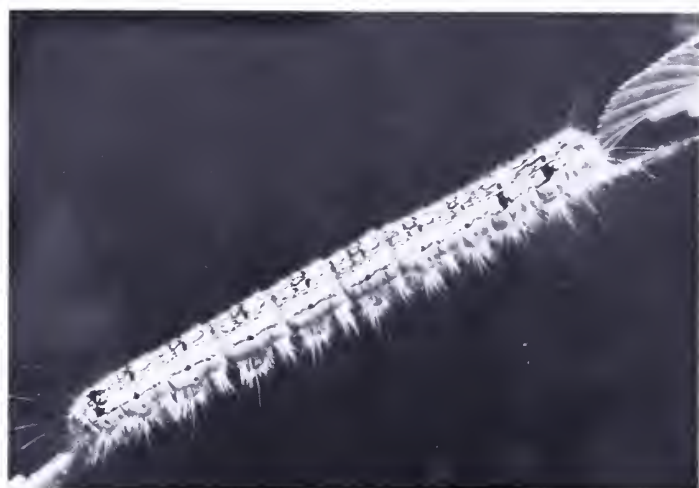
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Cladara limitaria



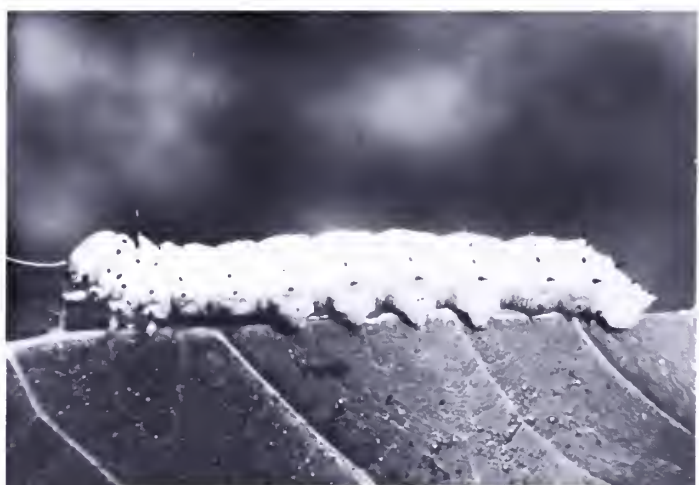
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Tolype laricis



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Dryocampa rubicunda



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Ceratomia amyntor



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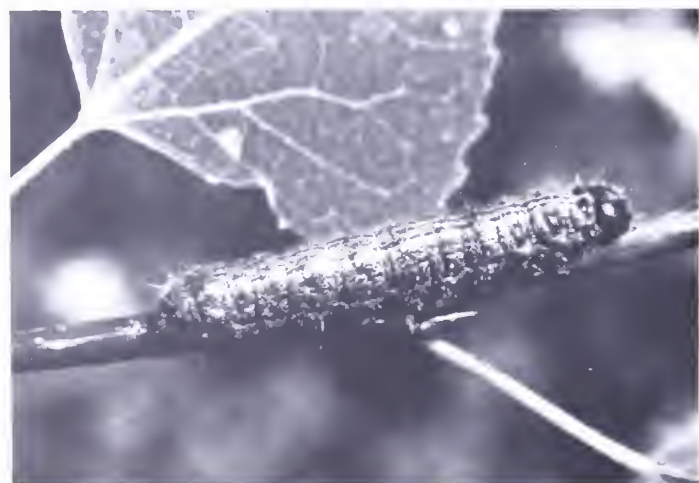
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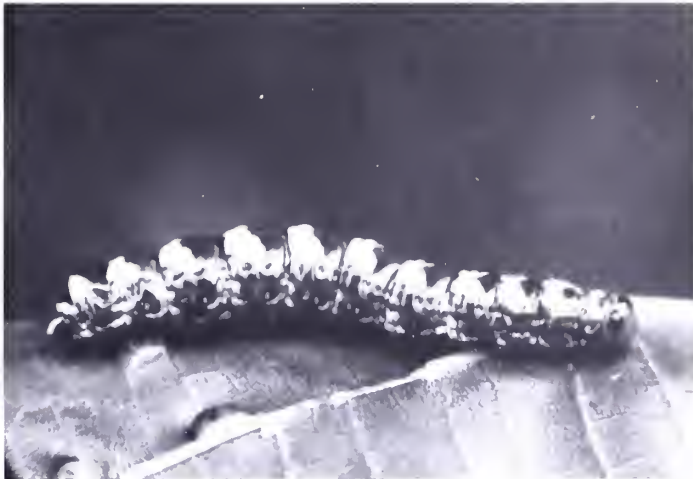
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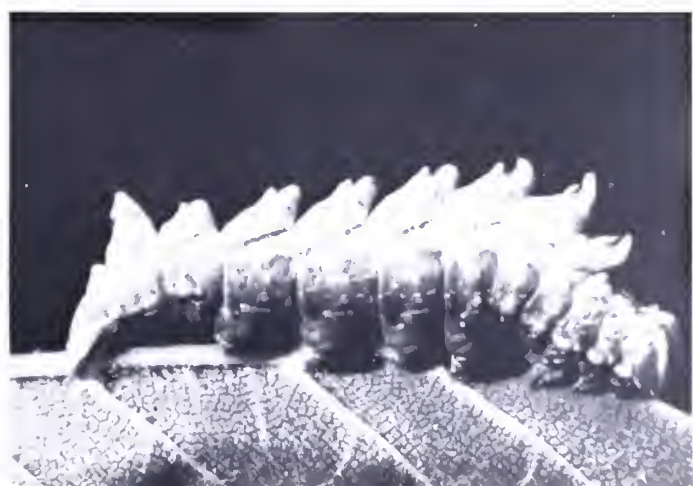
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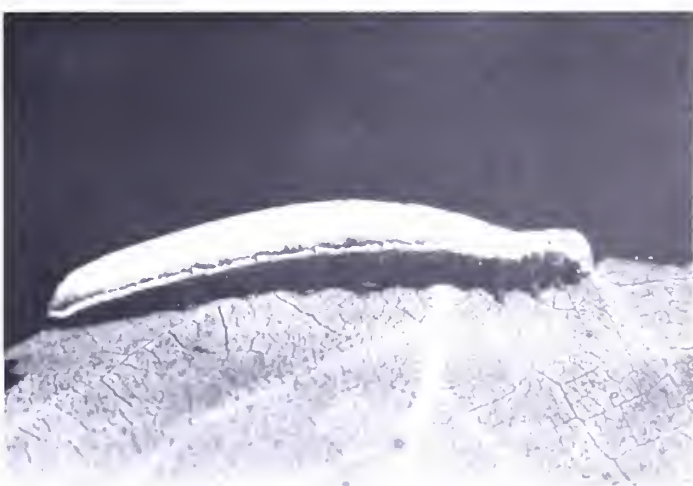
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Gluphisia septentrionis



7929
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Furcula occidentalis



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Symmerista leucitys



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Furcula occidentalis



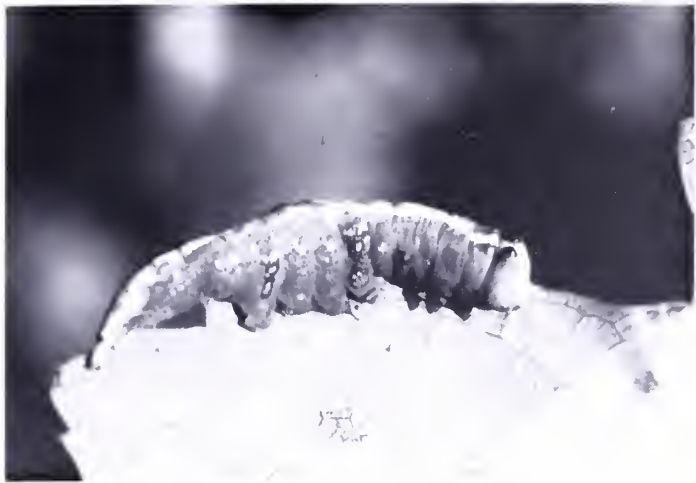
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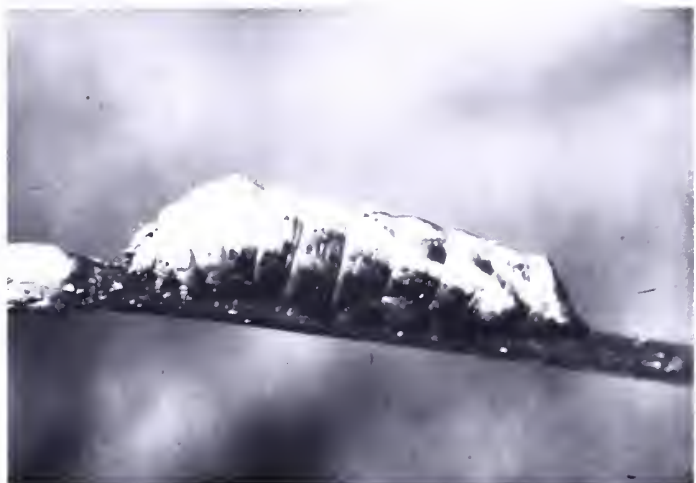
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Heterocampa biundata



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Schizura leptinoides



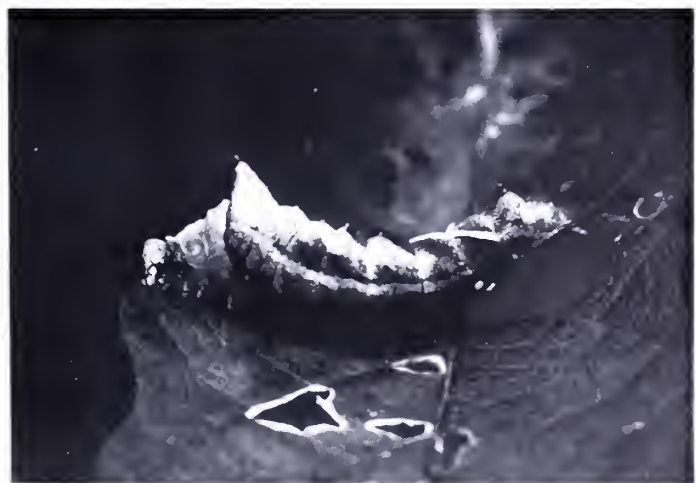
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Schizura badia



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Eilema bicolor



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Schizura unicornis



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Phragmatobia lineata



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Arctia caja



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Orgyia antiqua



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Lophocampa maculata



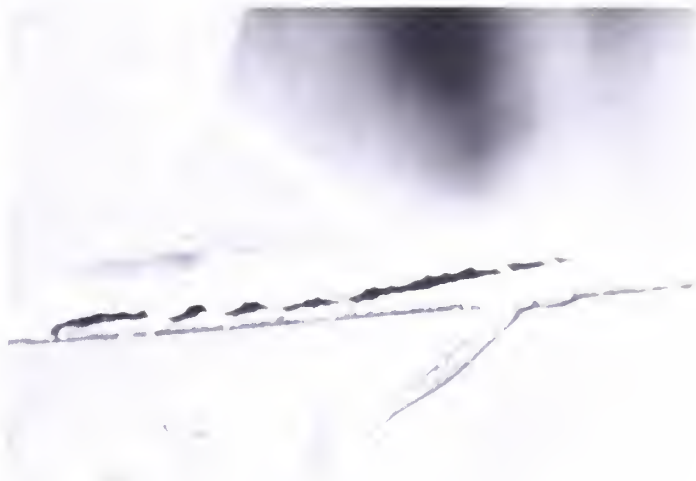
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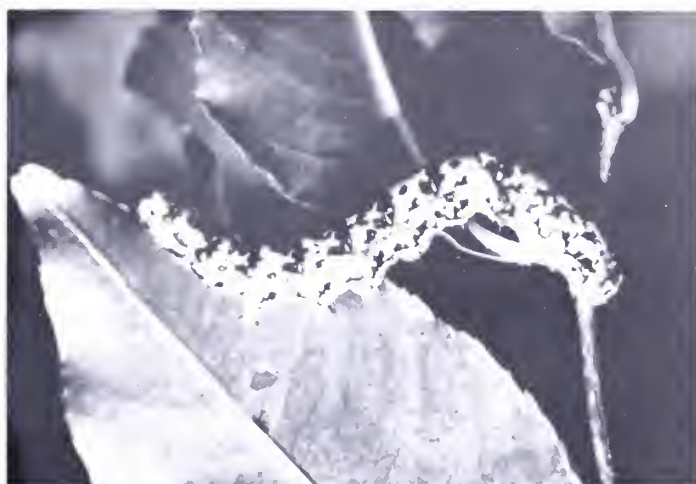
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Zale lunata



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Calyptra canadensis



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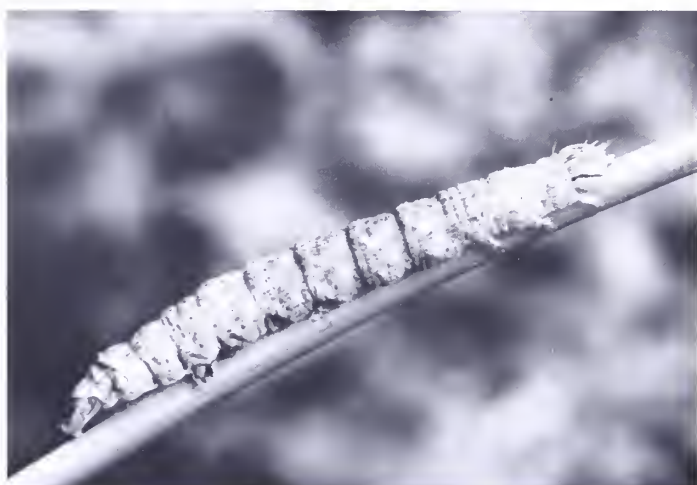
Zale minerea



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Zale phaeocapna



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Catocala relict



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Parallelia bistriaris



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Catocala crataegi



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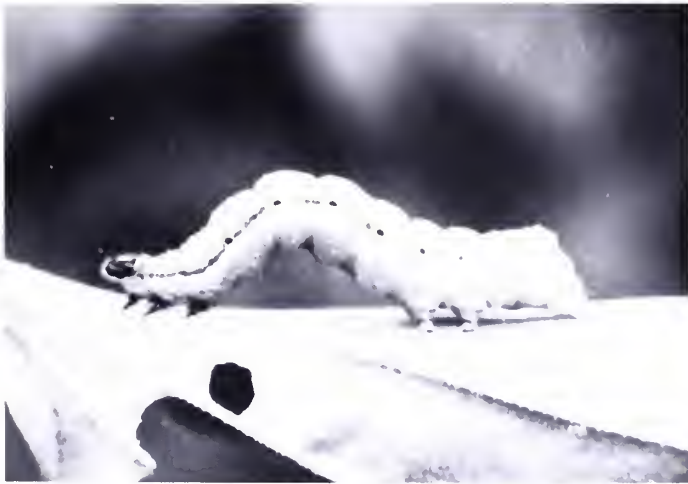
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Lophophanes thyratoides



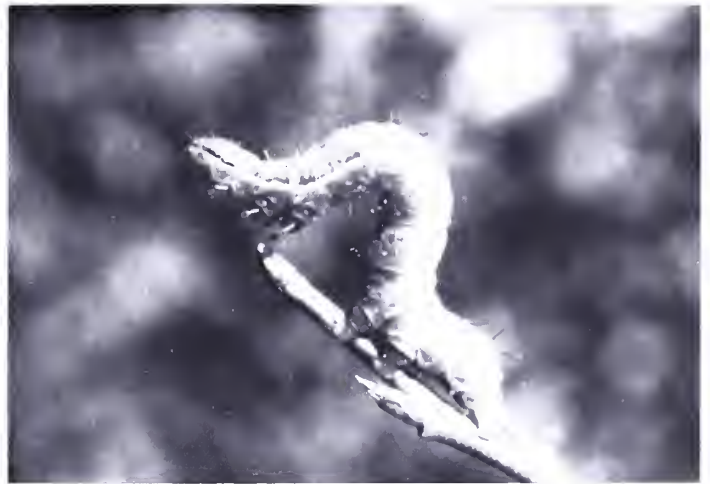
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Autographa ampla



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Autographa precationis



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Syngrapha epigaea



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Autographa bimaculata



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Syngrapha rectangulara



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Syngnatha microgamma



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Baileyella ophthalmica



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Plusia putnami



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Exyra rolandiana



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Plusia contexta



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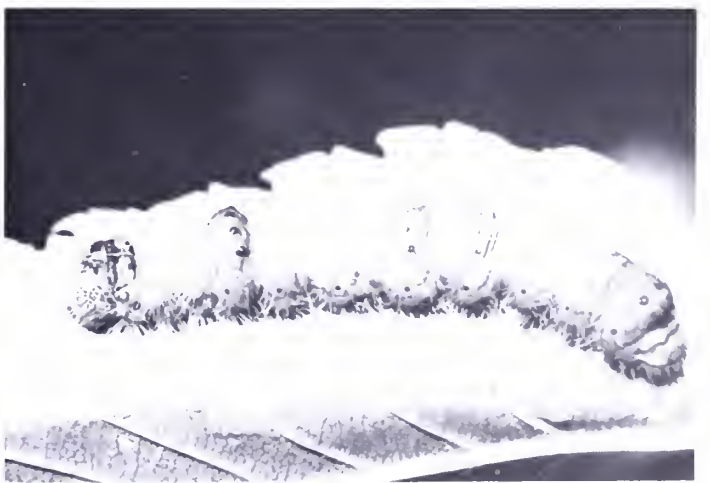
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Acronicta noctivaga



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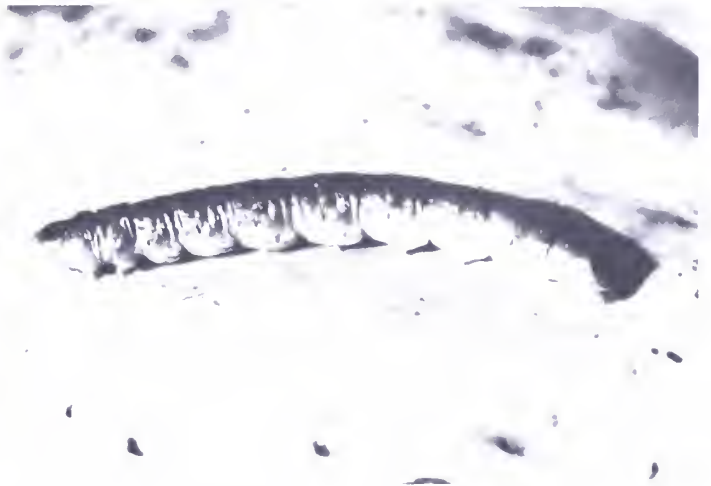
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Bellura gortynoides



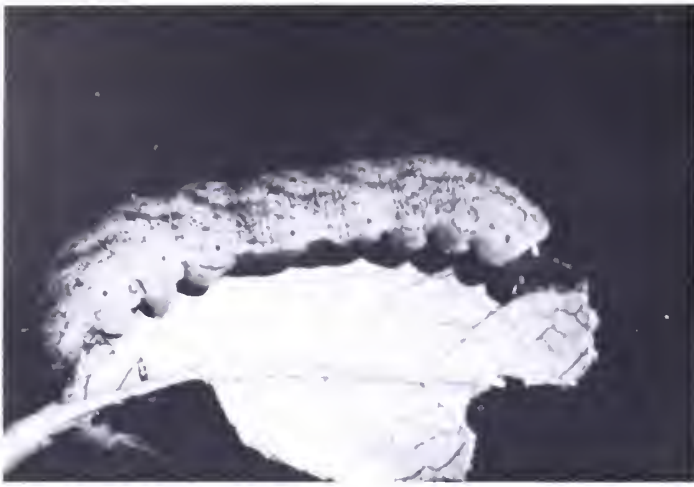
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Euplexia benesimilis



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Phlogophora iris



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Callopistria cordata



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Hyppa xylinoides



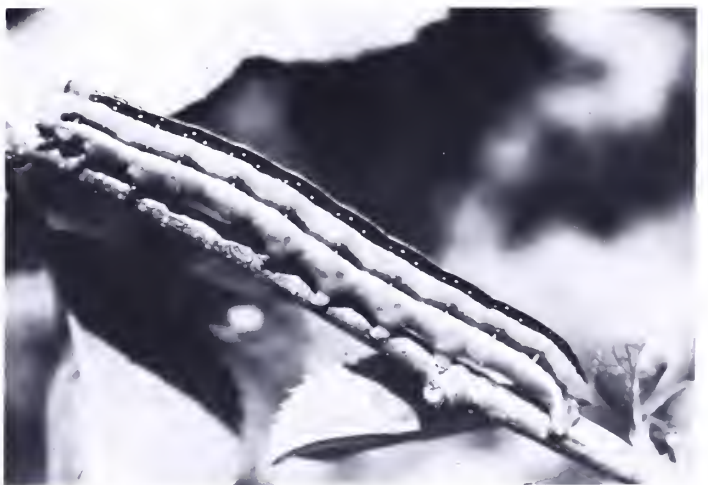
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Amphipyra tragopoginis



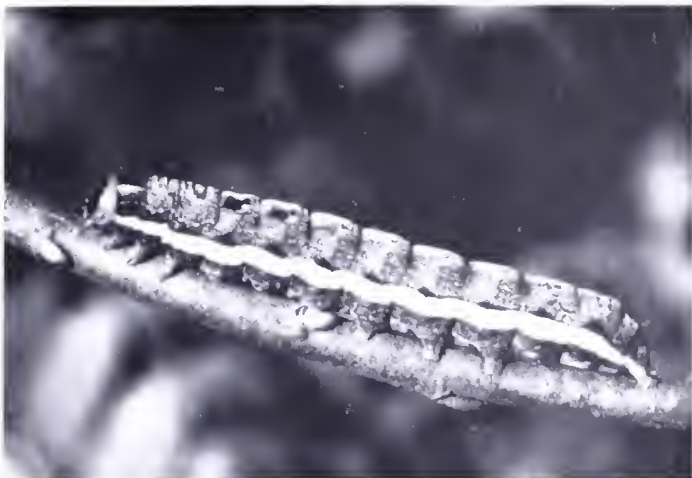
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Xylena nupera



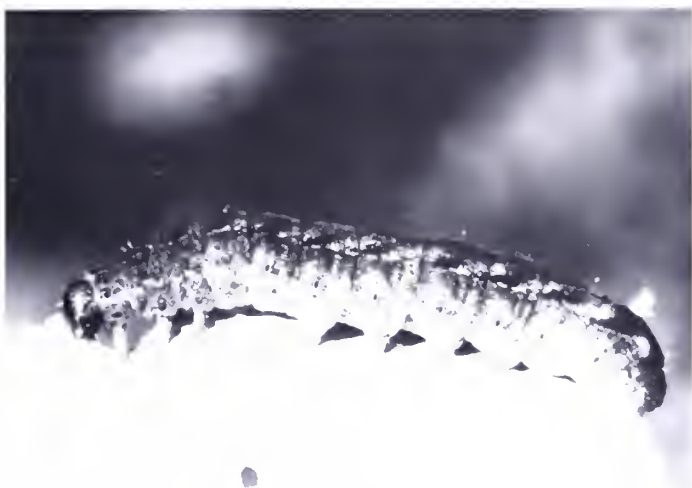
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Lithomoia solidaginis



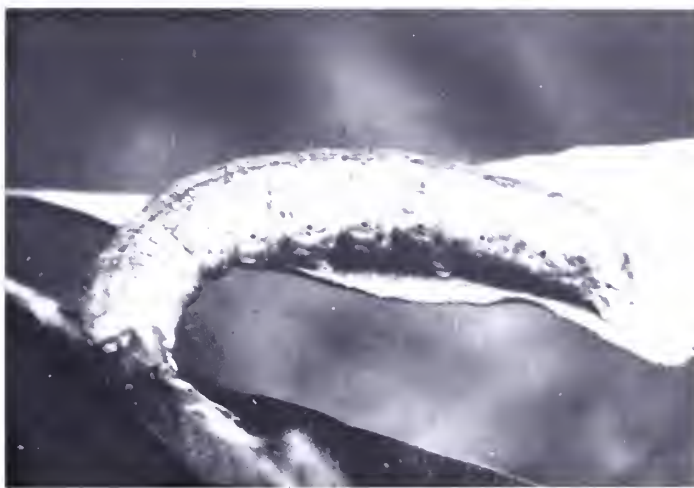
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Eupsilia morrisoni



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Litholomia napaea



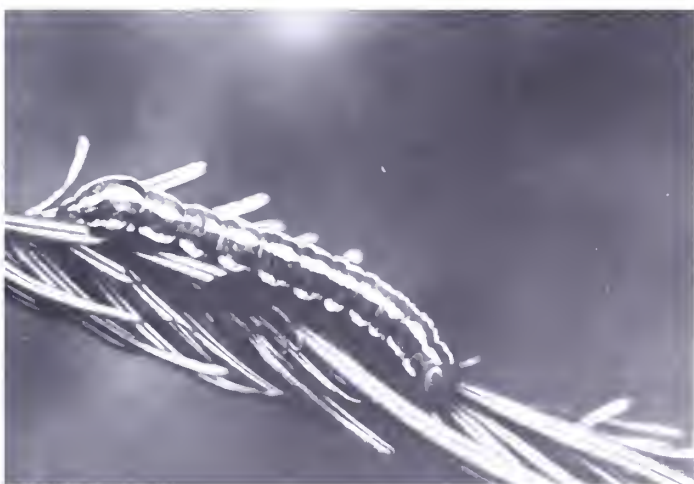
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Mniotype ducta



9891

Lithophane amanda



10005

Ferialia jocosa



10008
Feralia comstocki



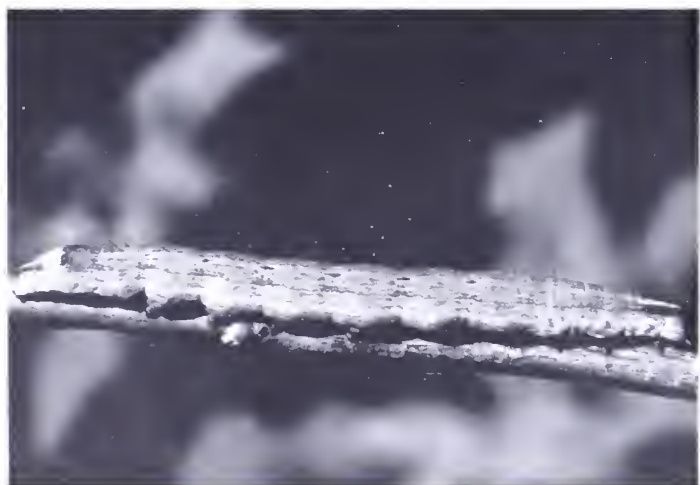
10197
Cucullia florea



10057
Apharetra dentata



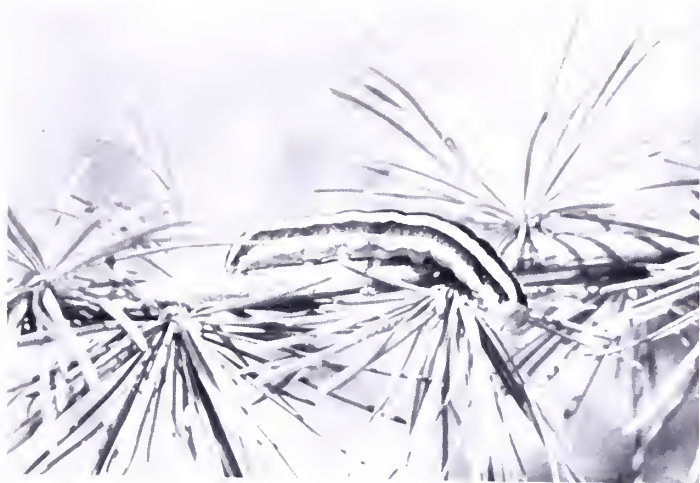
10202
Cucullia convexipennis



10123
Oncocnemis piffardi

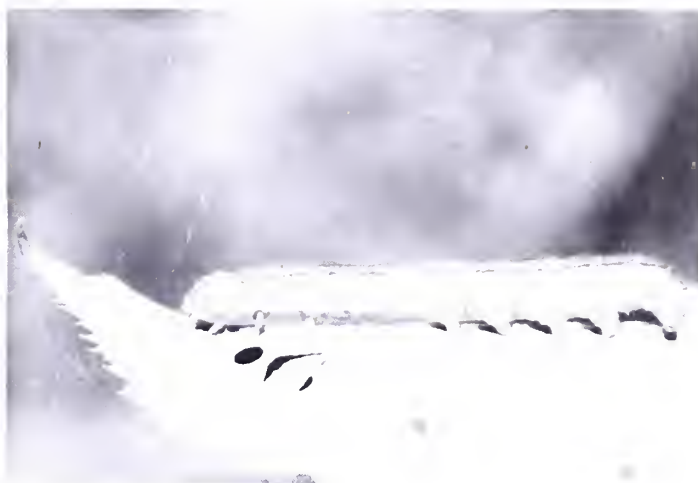


10292
Melanchra adjuncta



10294

Melanchra pulverulenta



10303

Trichordestra tacoma



10295

Melanchra assimilis



10304

Trichordestra legitima



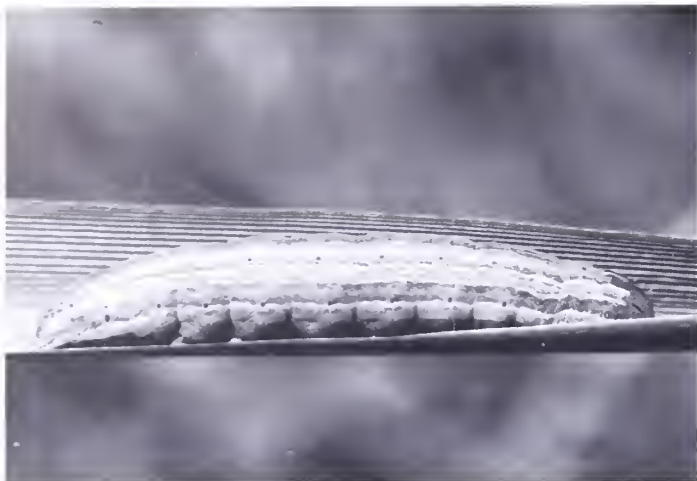
10301

Spiramater lutra



10406

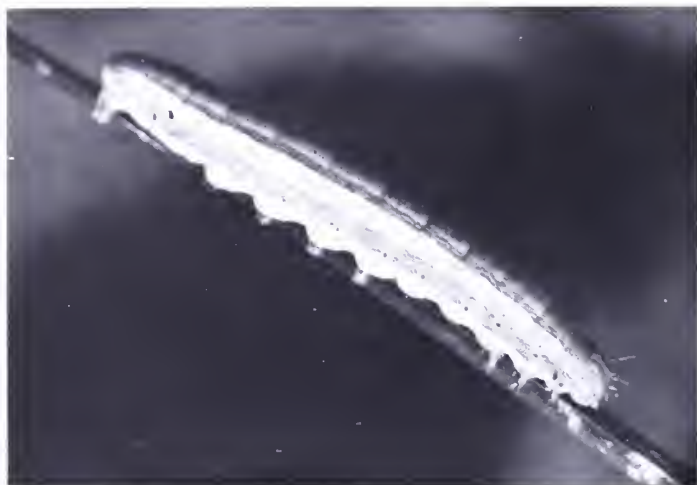
Lacinipolia olivacea



10436
Aletia oxygala



10487
Orthosia rubescens



10446.1
Leucania lapidaria



10490
Orthosia revicta



10447
Leucania commoides



10513
Egira dolosa



10518
Achatia distincta



10578
Pseudorthodes vecors



10521
Morrisonia confusa



10587
Orthodes cynica



10532
Homorthodes furfurata



10930
Eurois astricta



10944
Xestia smithii



10988
Eugraphe subrosea



10951
Xestia tenuicula



10994
Cerastis tenebrifera



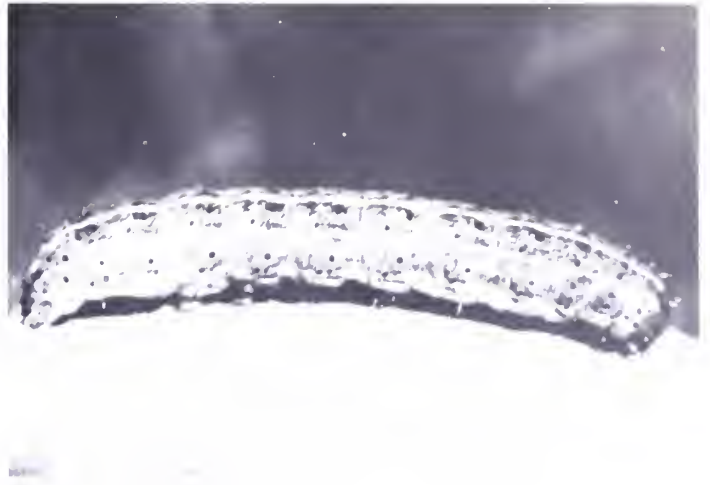
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Anomogyna youngii



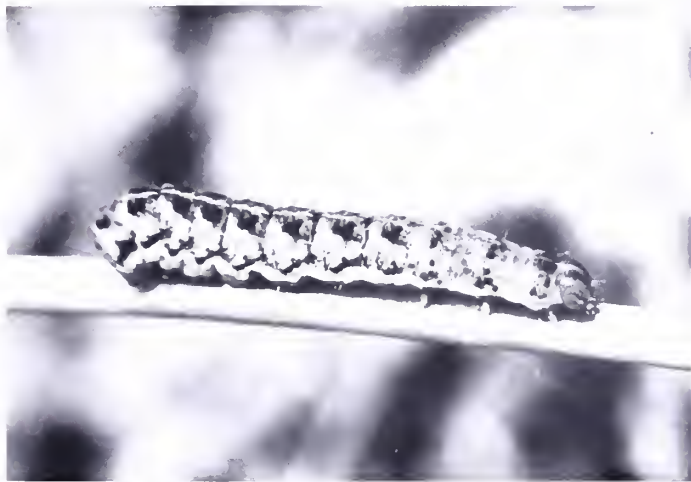
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Aplectoides condita



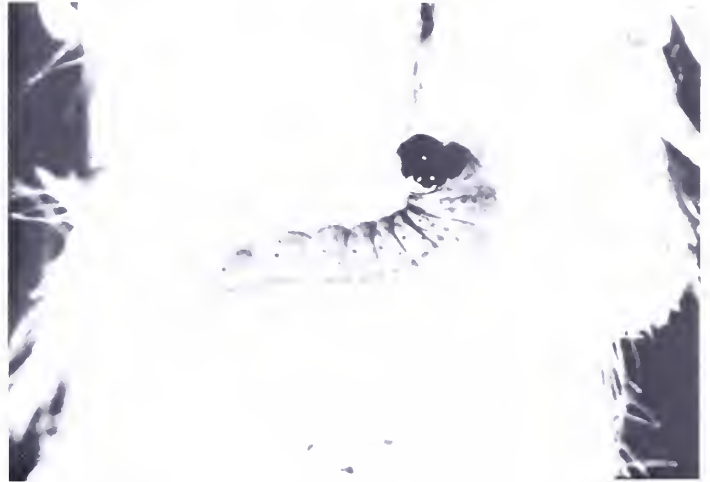
10663
Agrotis ipsilon



11012
Cryptocala acadiensis



11001
Anaplectoides pressus



11062
Eutricopis nexilis



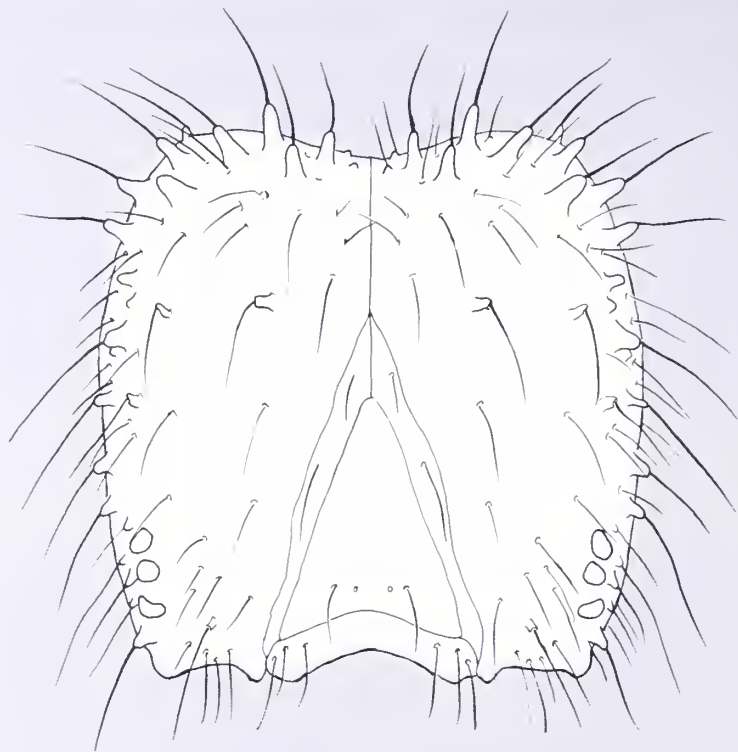
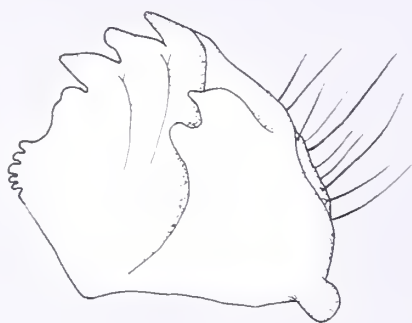
11009
Eueretagrotis attentus



11064
Pyrrhia exprimens

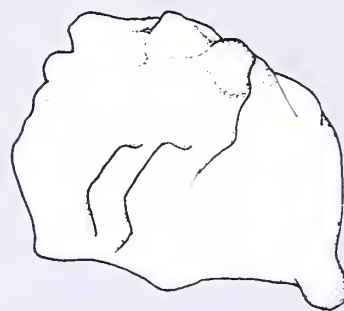
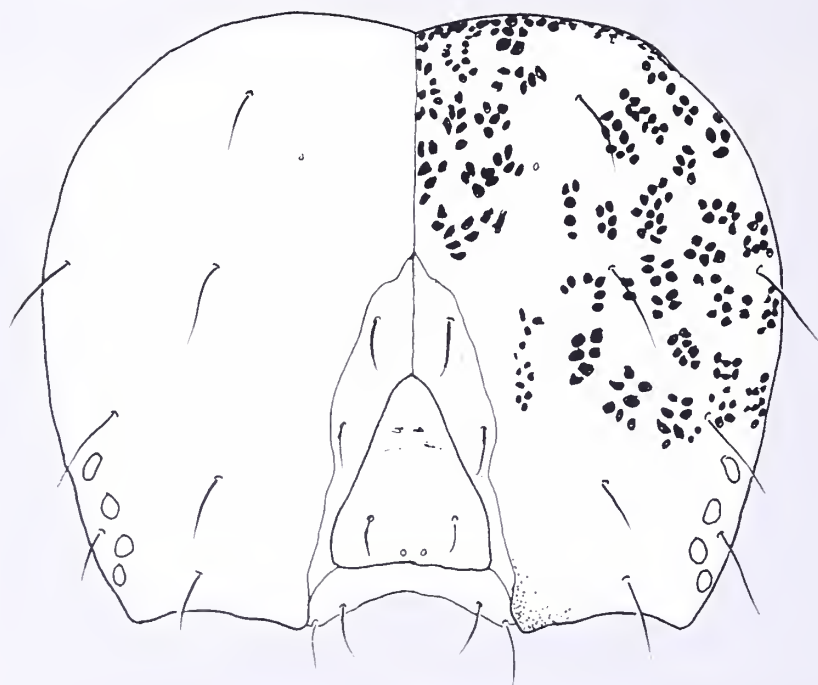
4434

Vanessa virginiensis

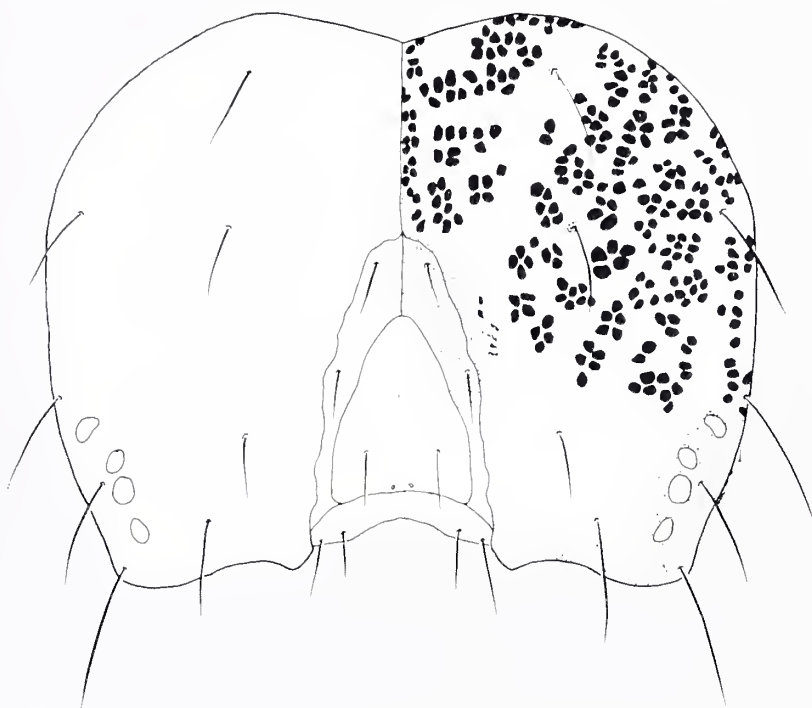


6235

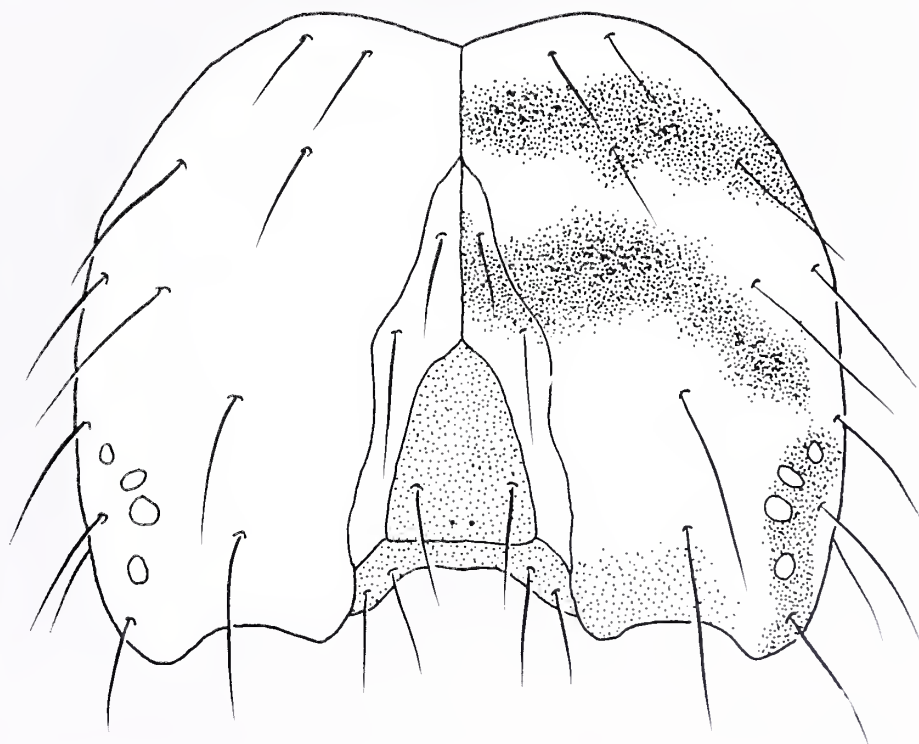
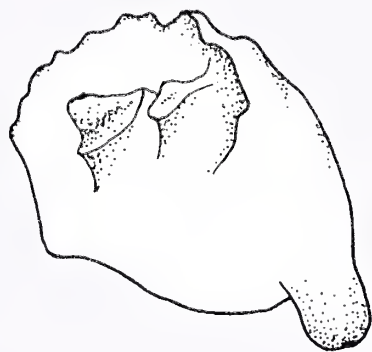
Habrosyne scripta



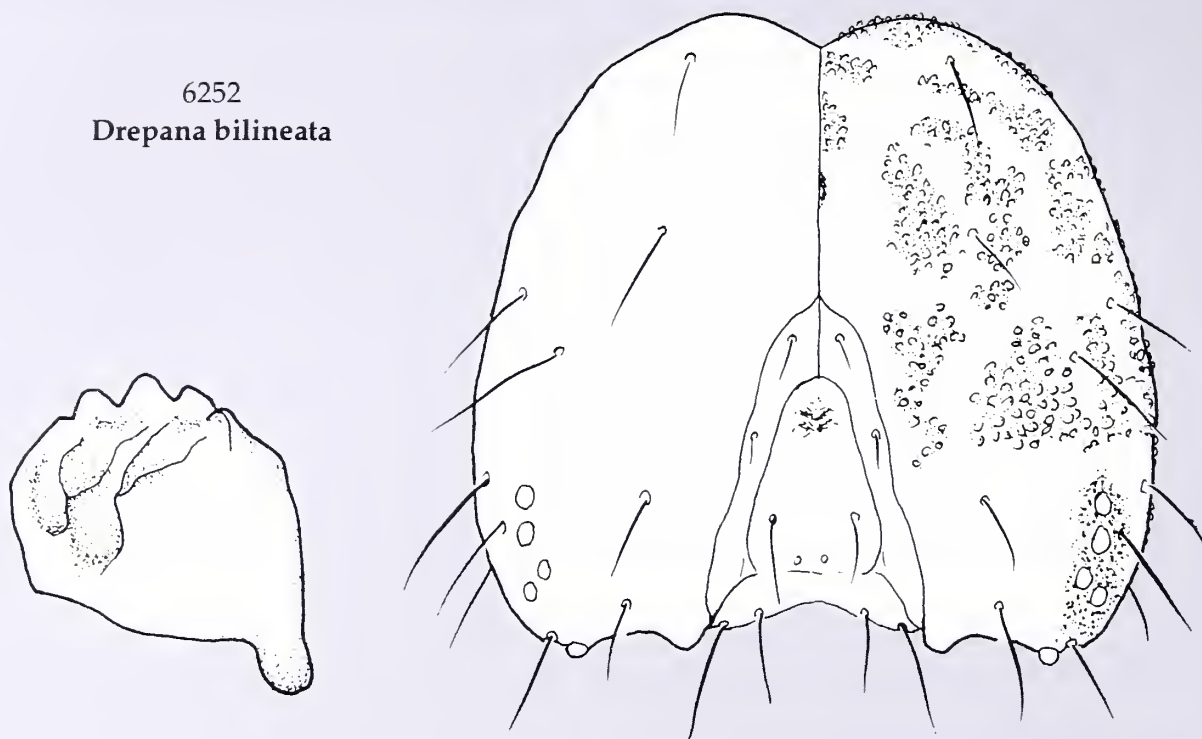
6237
Pseudothyatira cymatophoroides



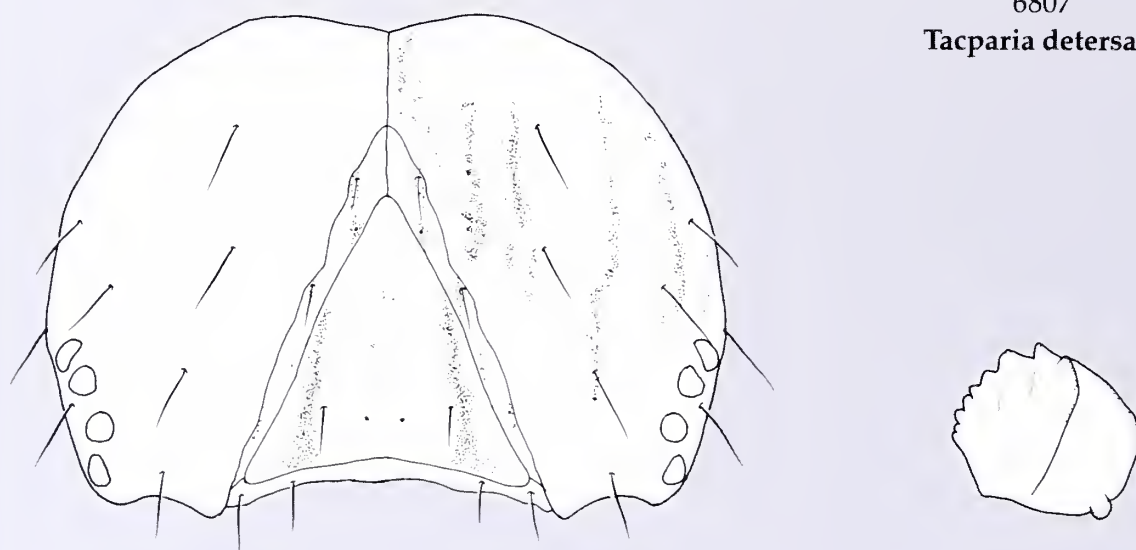
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Drepana arcuata

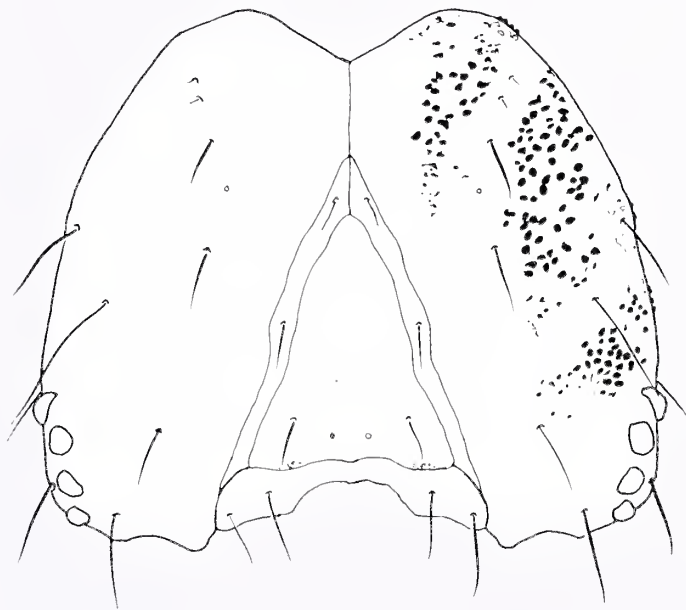


6252
Drepana bilineata

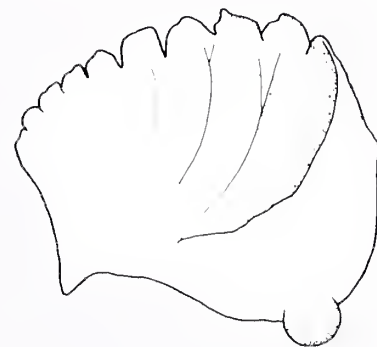


6807
Tacparia deterrenta

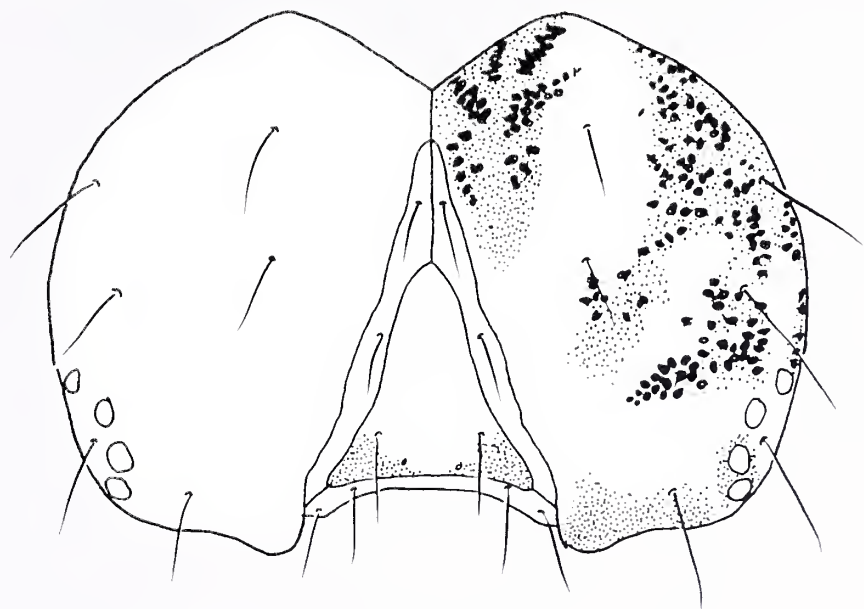
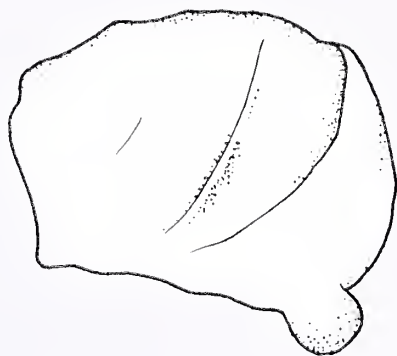




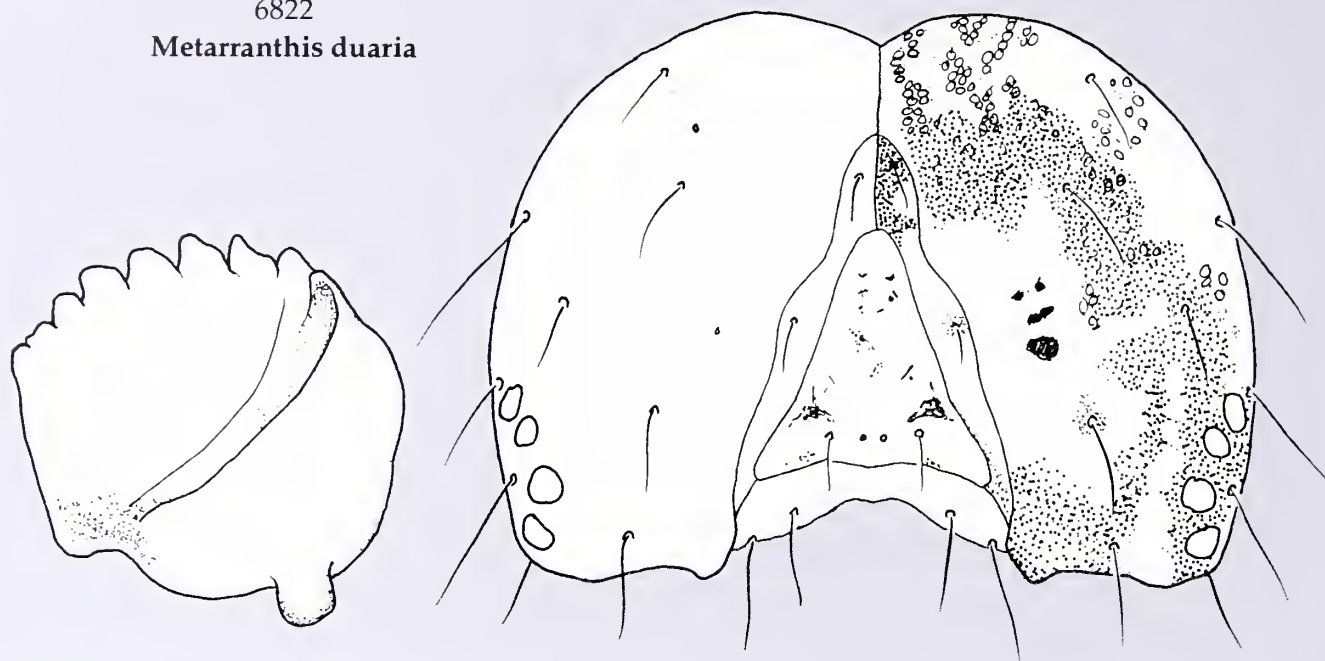
6818
Selenia kentaria



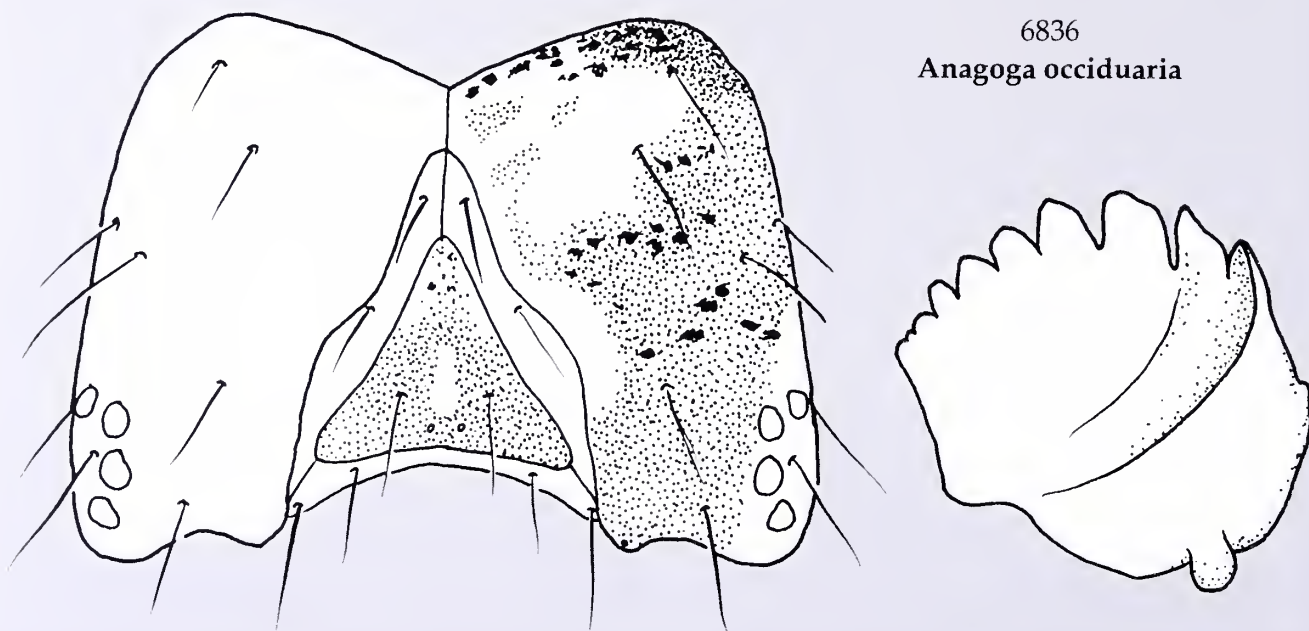
6819
Metanema inatomaria



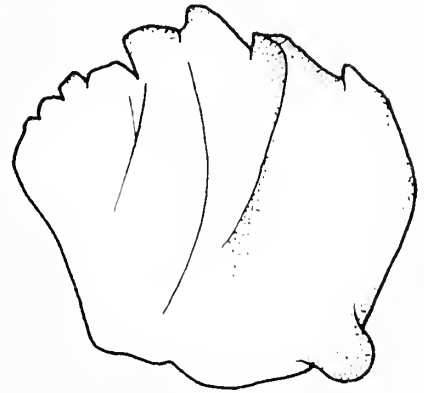
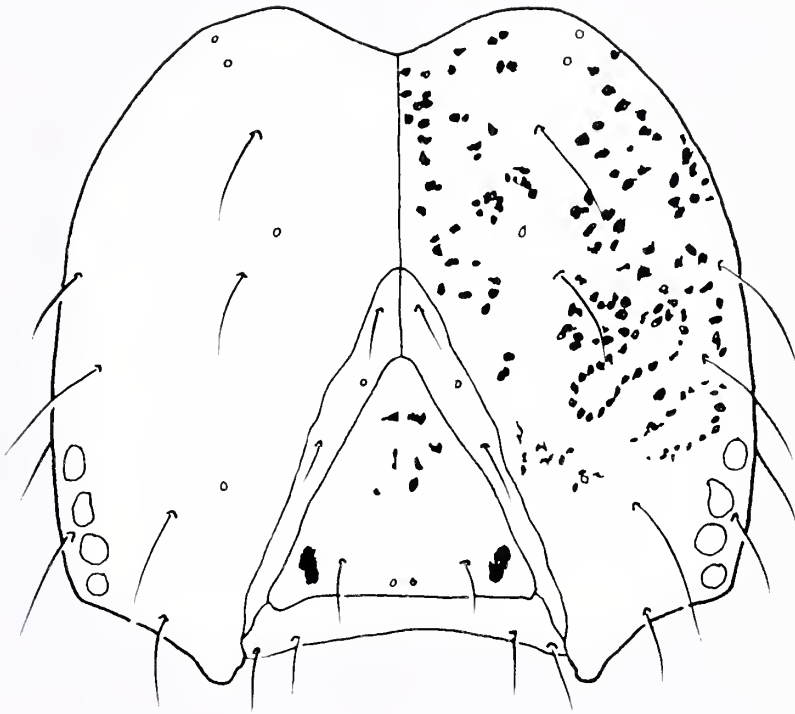
6822
Metarranthis duaria



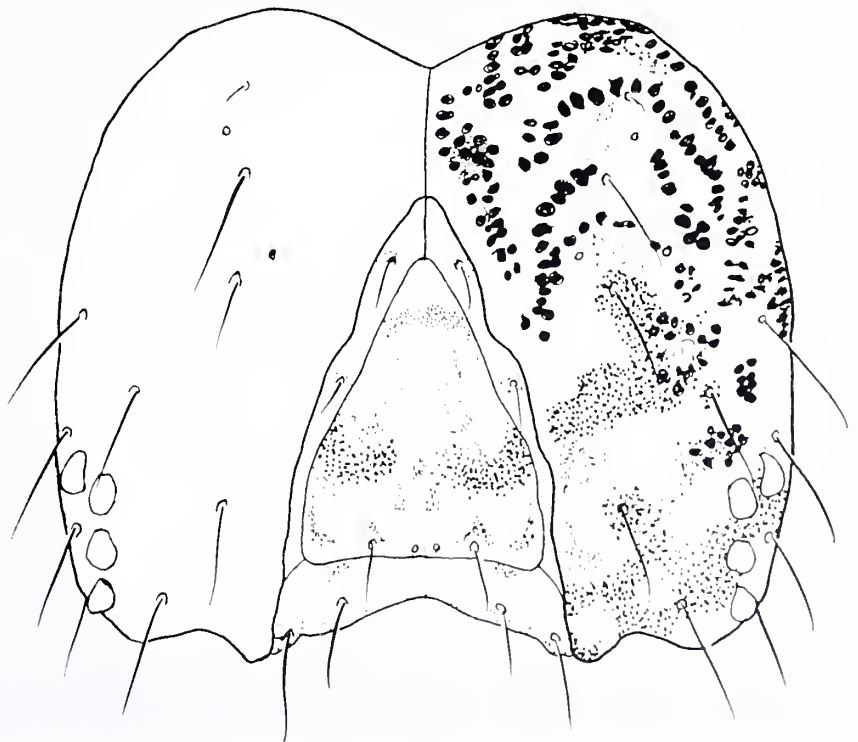
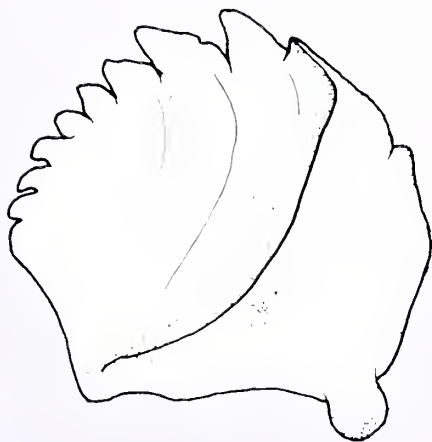
6836
Anagoga occiduaria



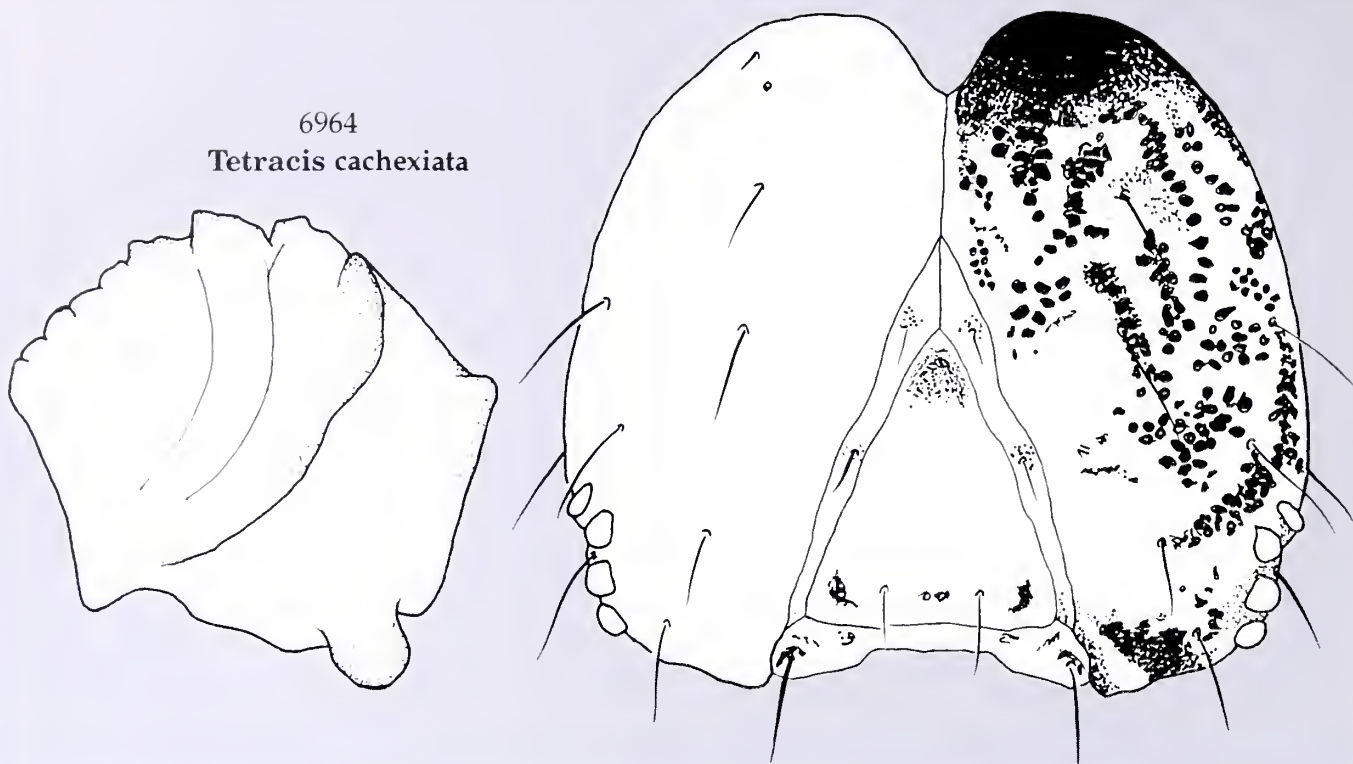
6867
Caripeta angustiorata



6863
Caripeta divisata

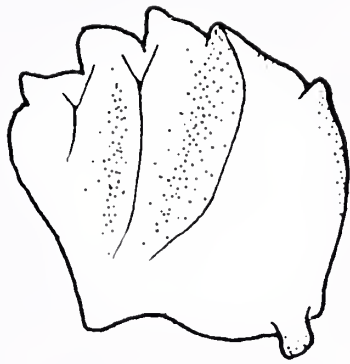


6964
Tetracis cachexiata



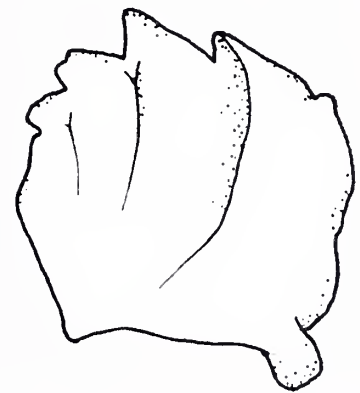
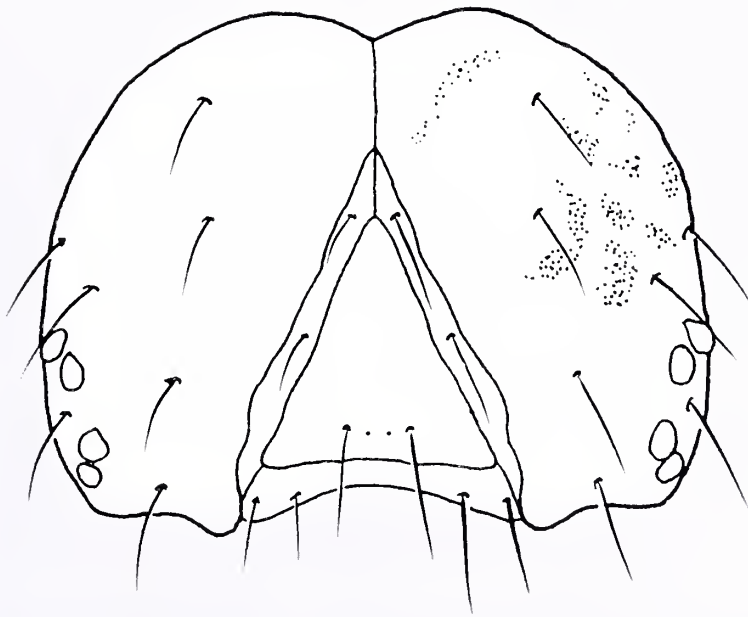
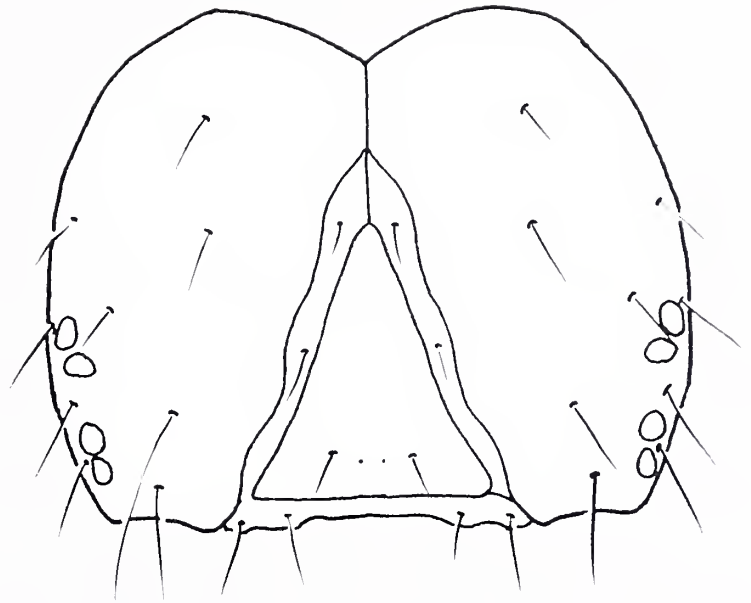
6966
Eutrapela clemataria





7329

Anticlea vasiliata



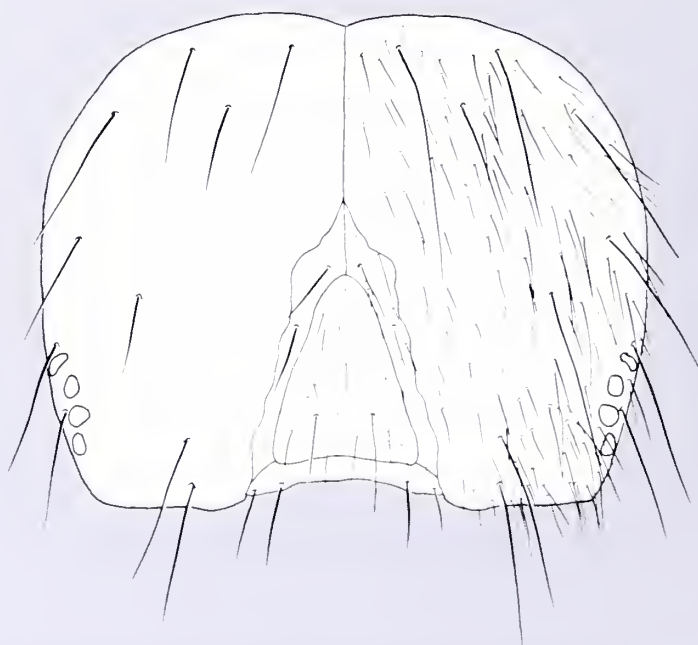
7329

Anticlea vasiliata

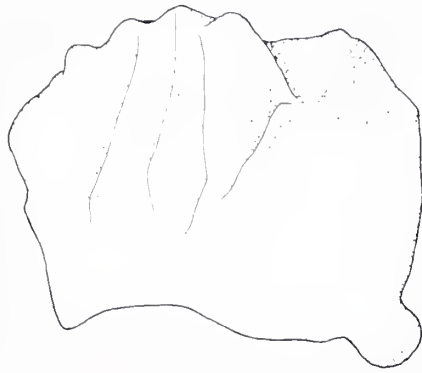
7673
Tolyte laricis



7698
Malacosoma disstria

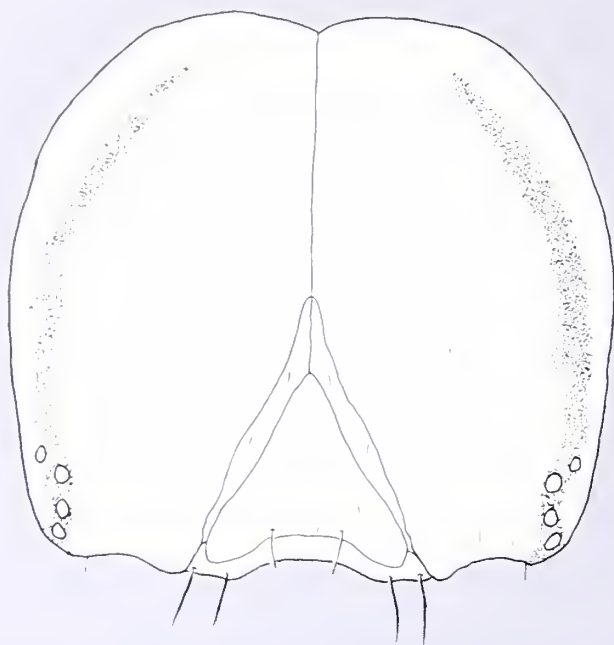


7701
Malacosoma americanum

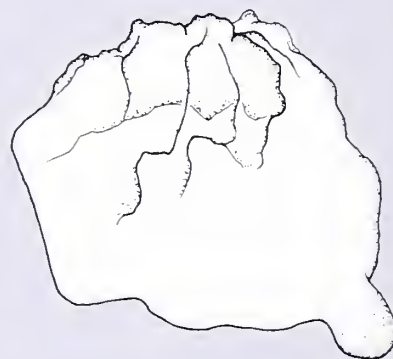


7809
Sphinx kalmiae

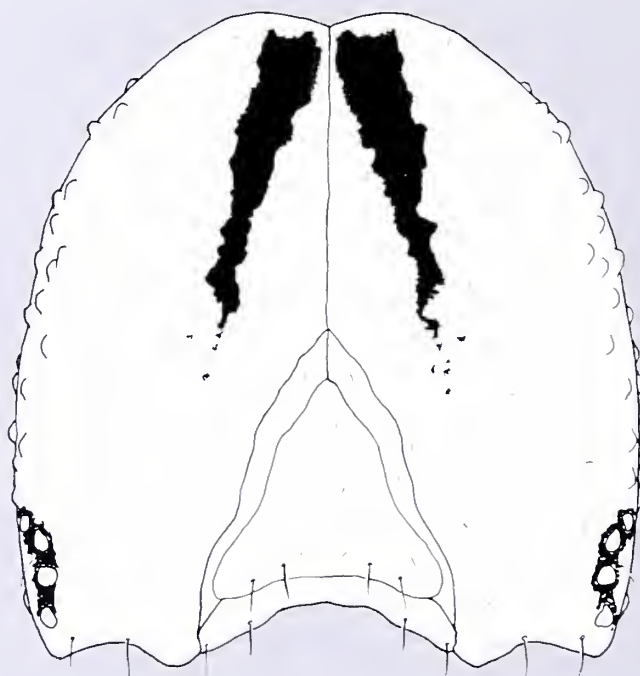
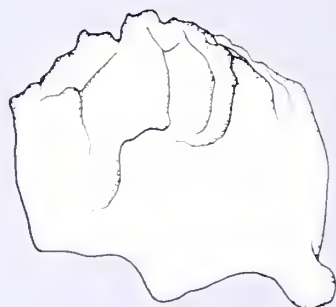




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Sphinx gordius

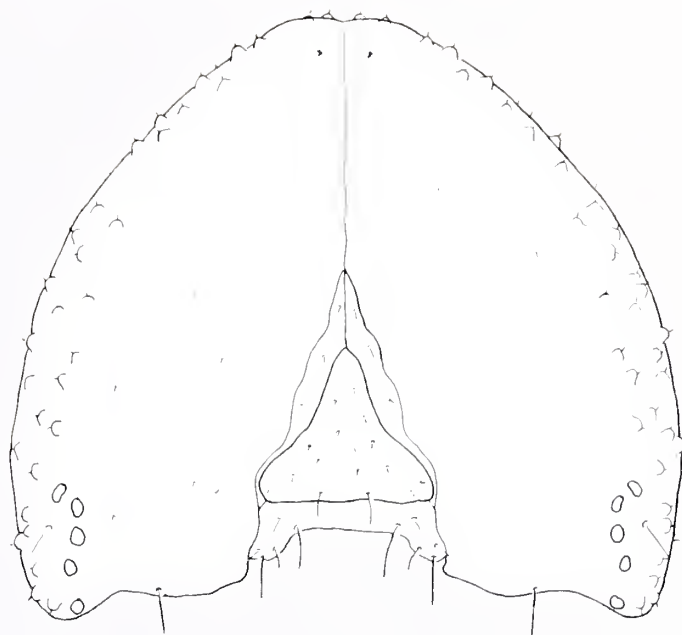
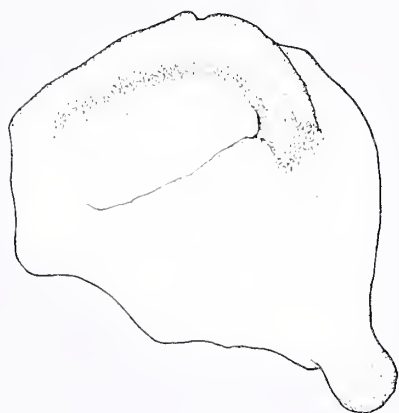


7817
Lapara bombycoides



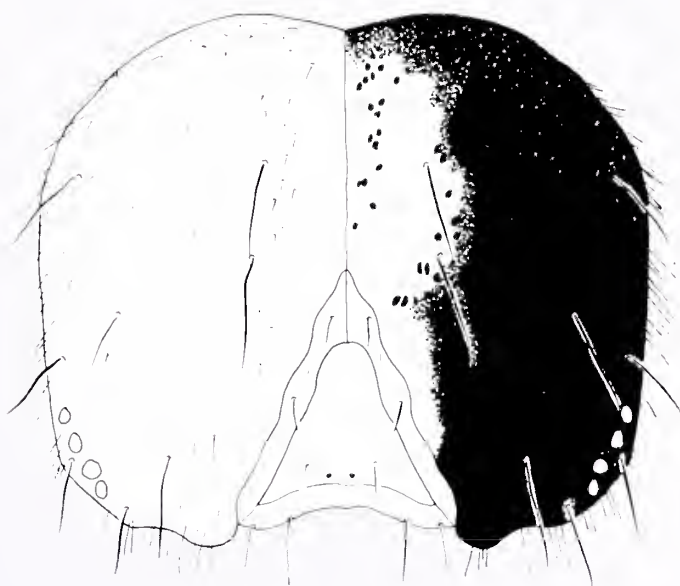
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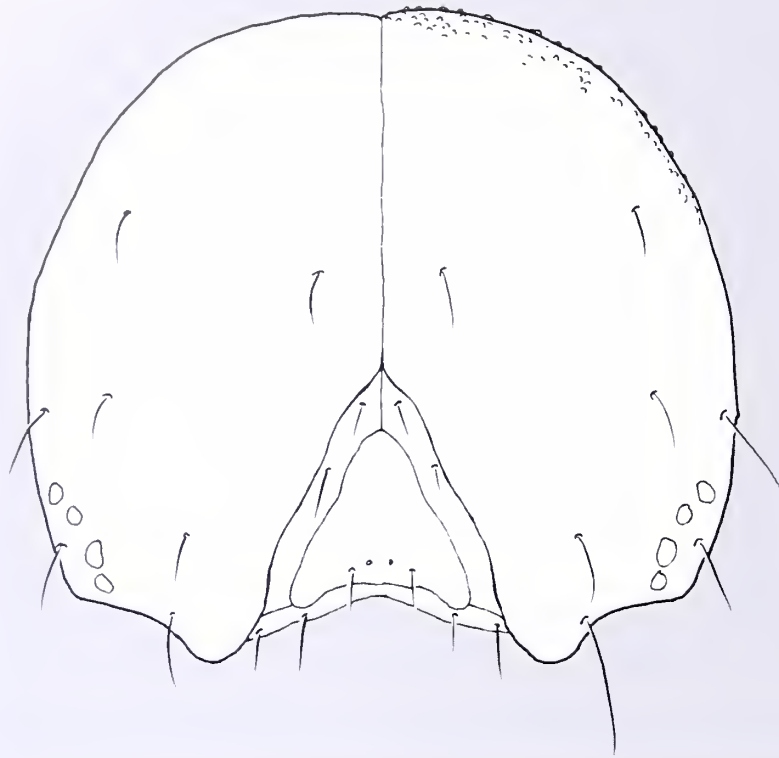
Pachysphinx modesta



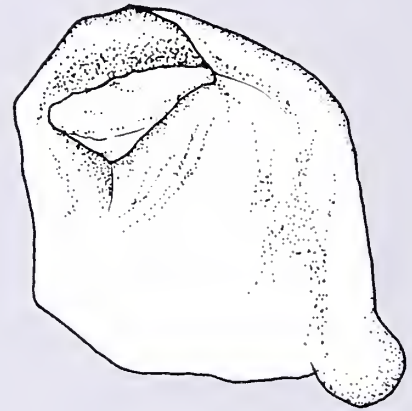
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Clostera albosigma

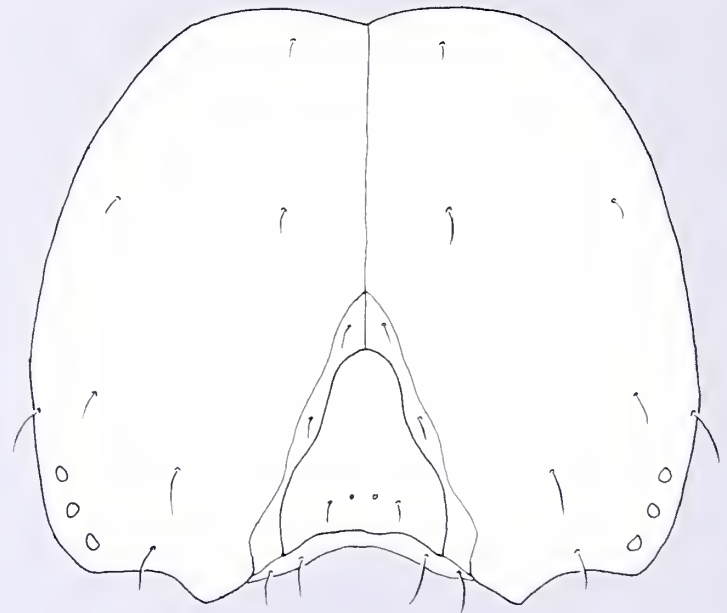
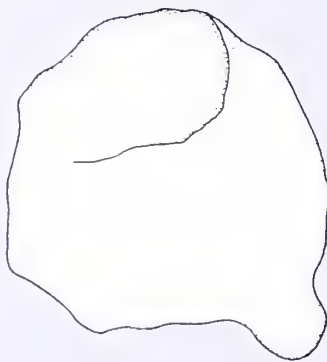




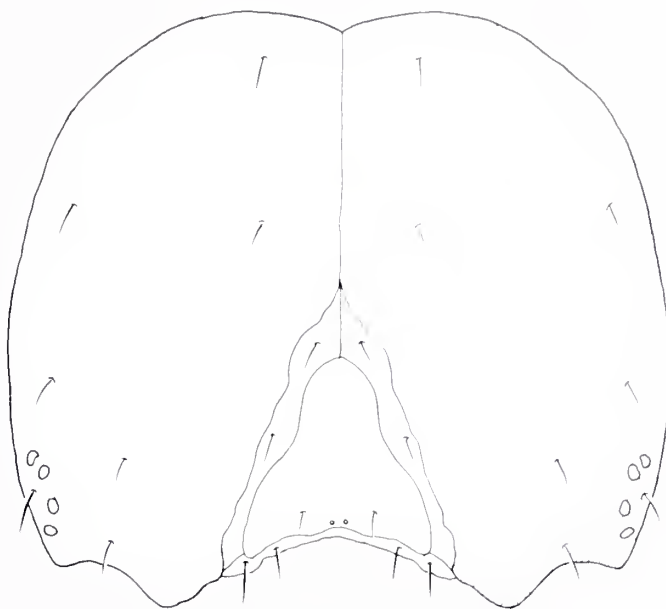
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Nadata gibbosa



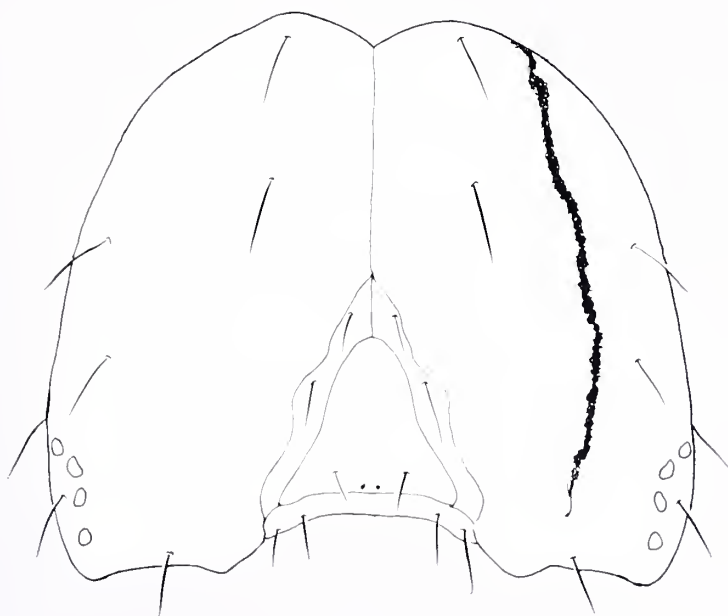
7922
Pheosia rimosa



7924
Odontosia elegans

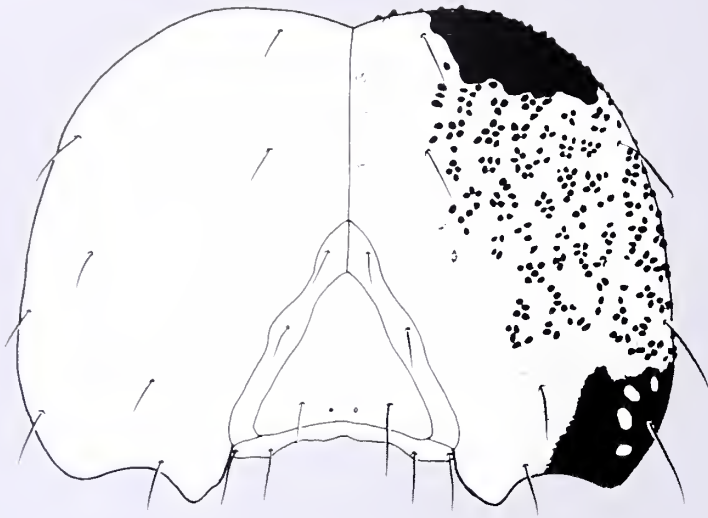


7929
Nerice bidentata



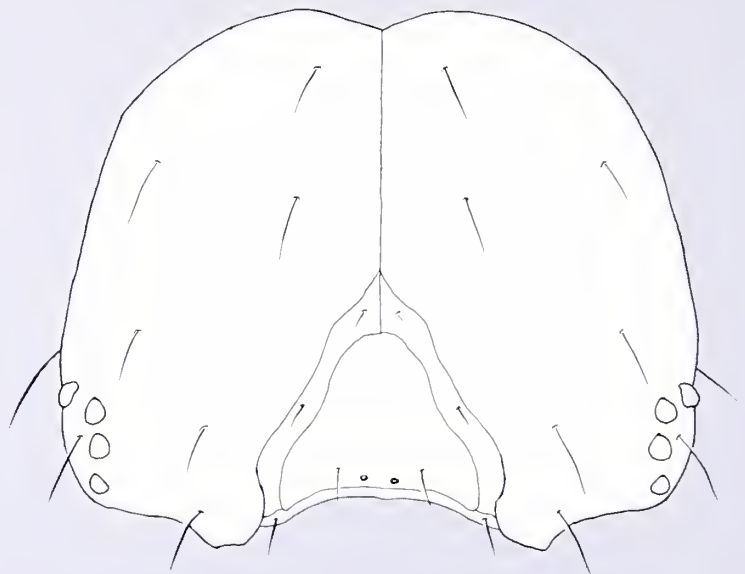
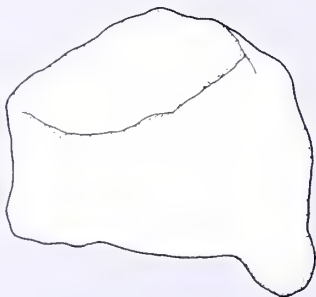
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Ellida caniplaga

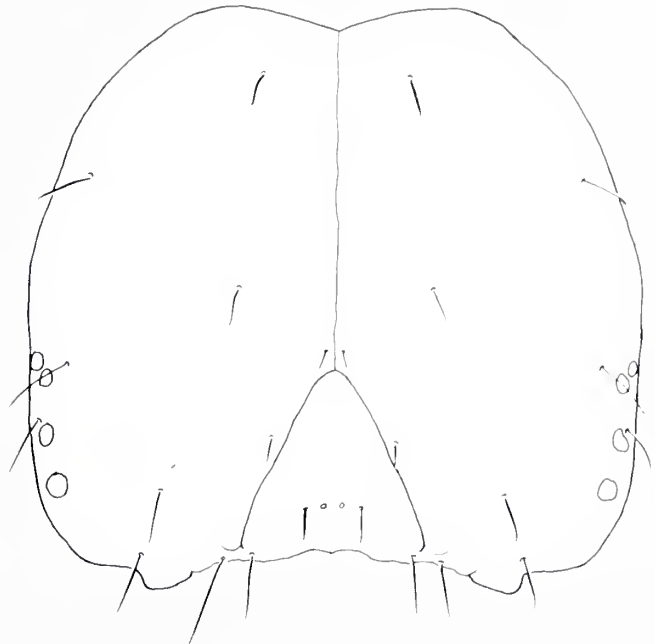
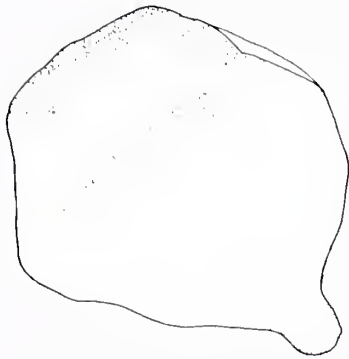


7931

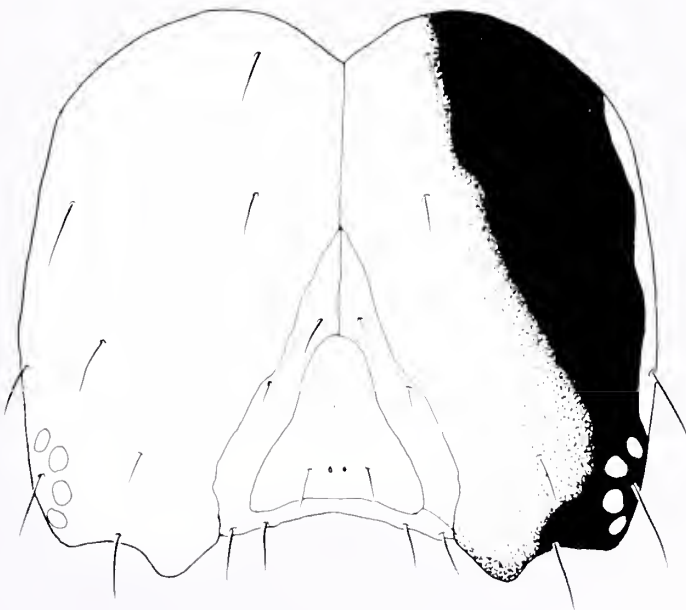
Gluphisia septentrionis



7934
Gluphisia lintneri

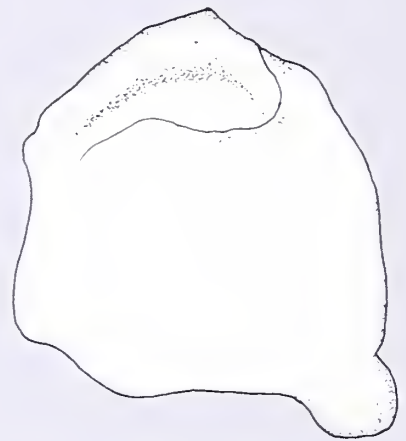


7940
Furcula scolopendrina

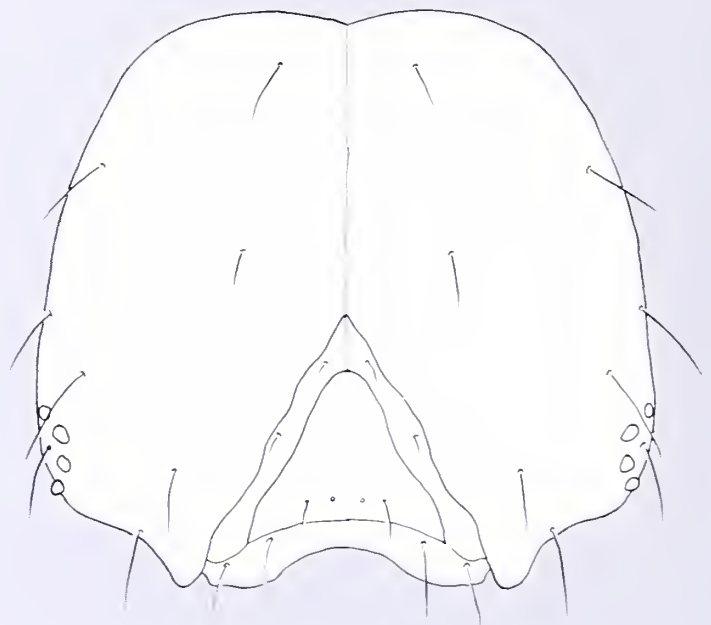
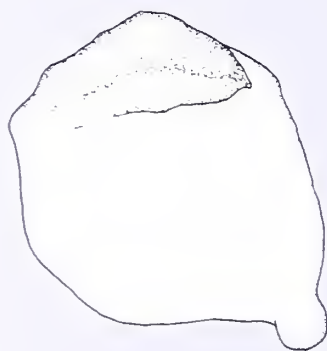




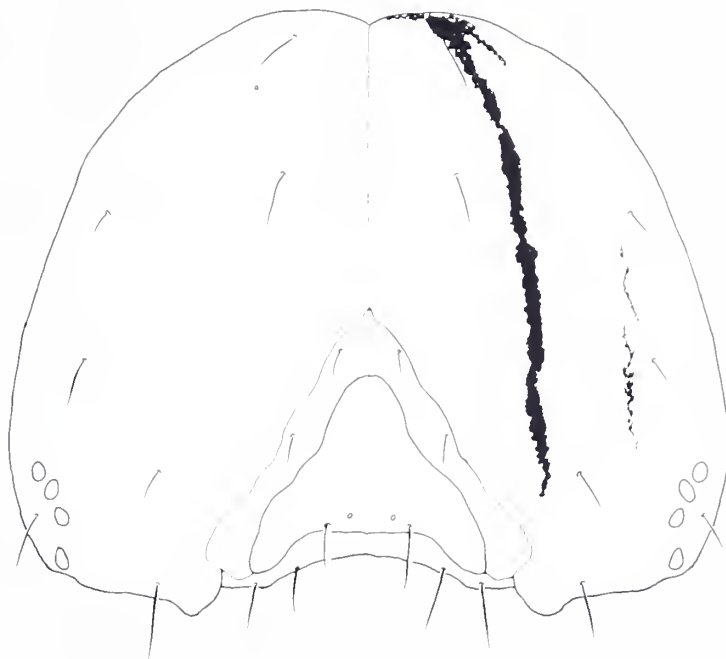
7939
Furcula
occidentalis



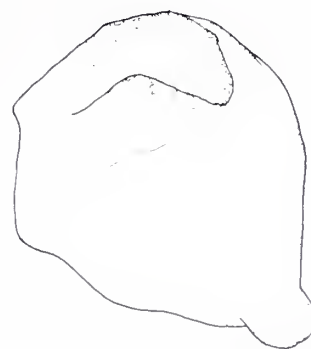
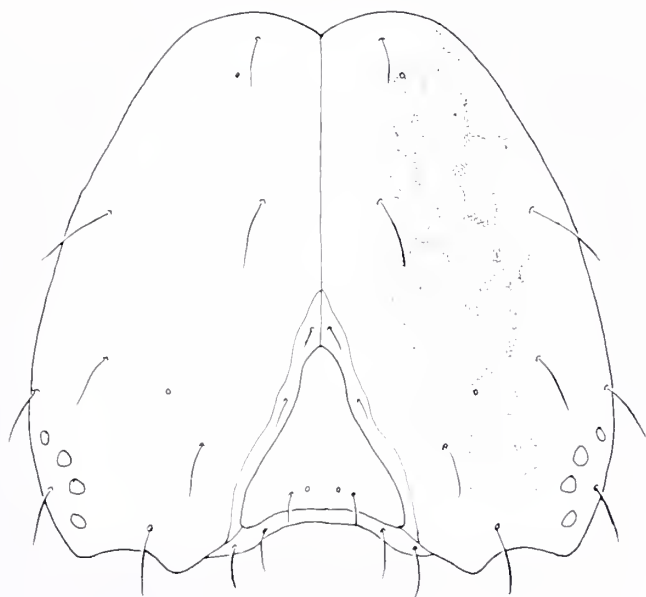
7953
Symmerista leucitys



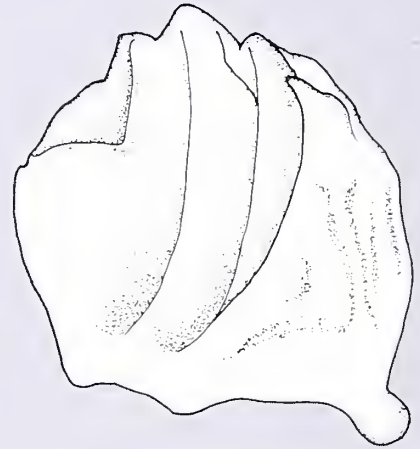
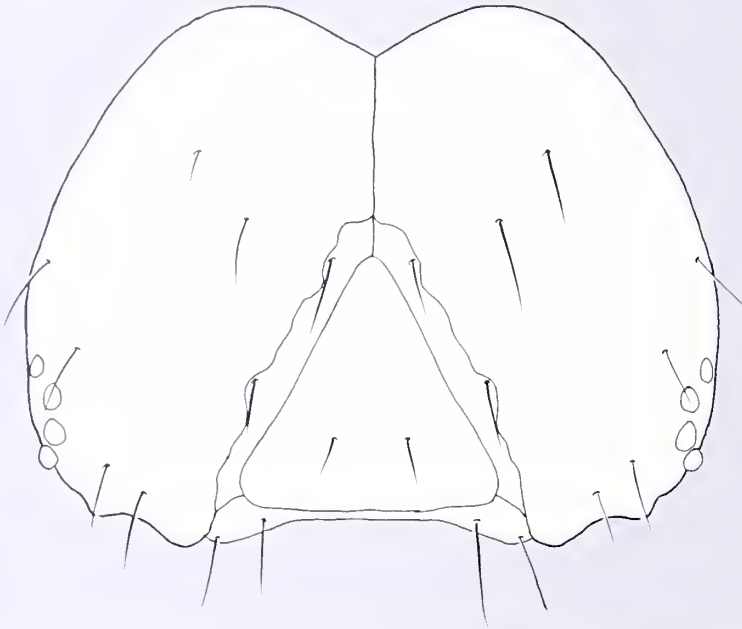
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Heterocampa biundata



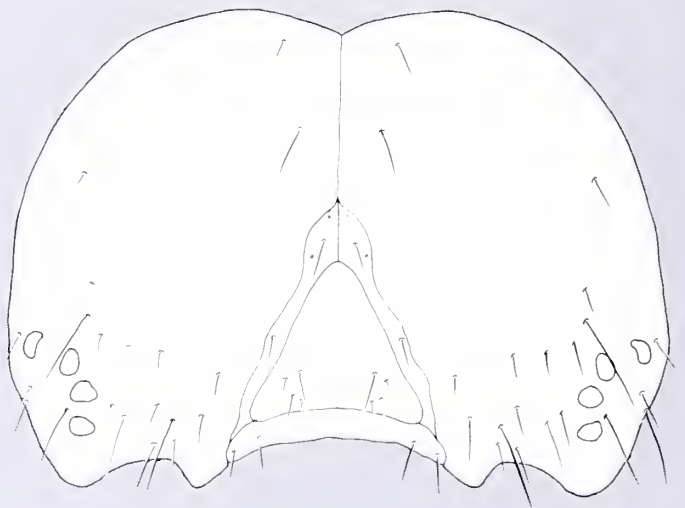
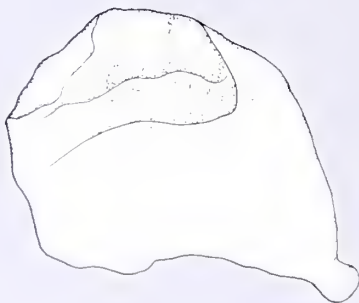
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Schizura unicornis



8166
Arctia caja

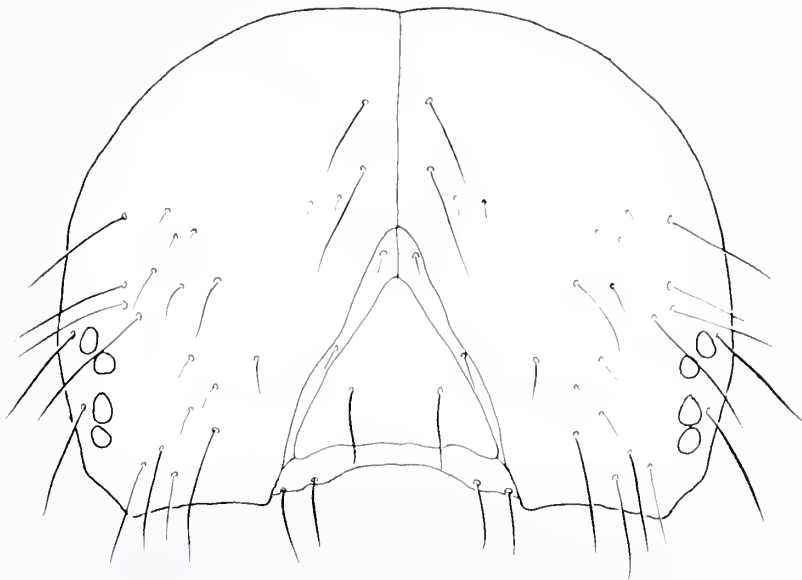
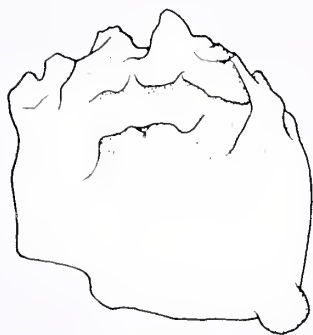


8203
Halysidota tessellaris



8214

Lophocampa maculata



8294

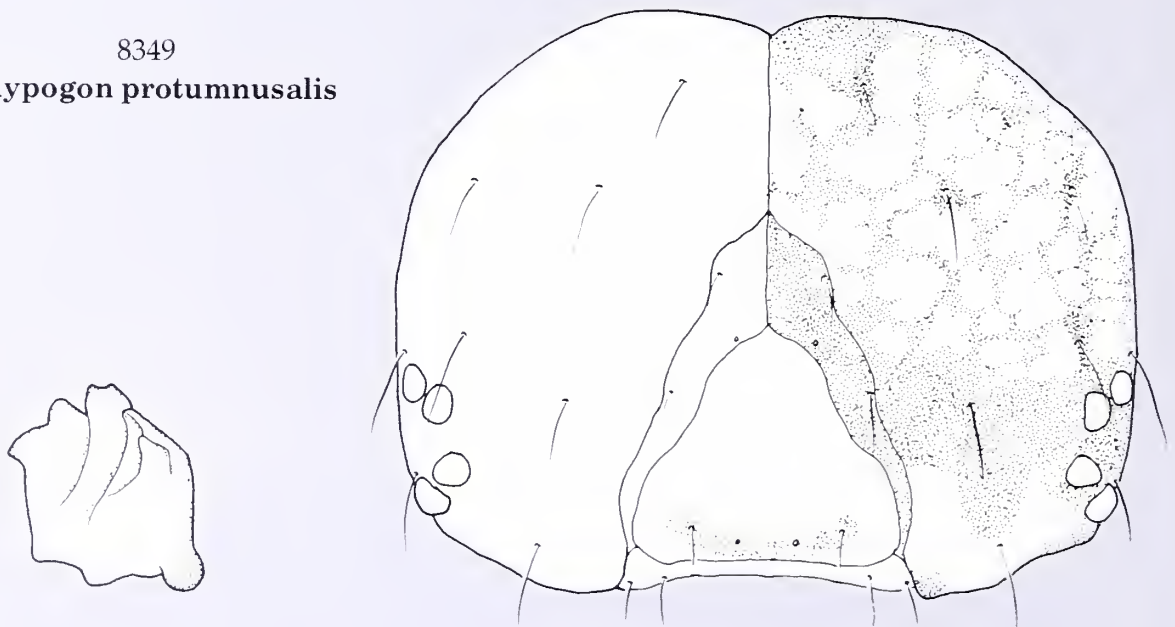
Dasychira vagans



8308
Orgyia antiqua

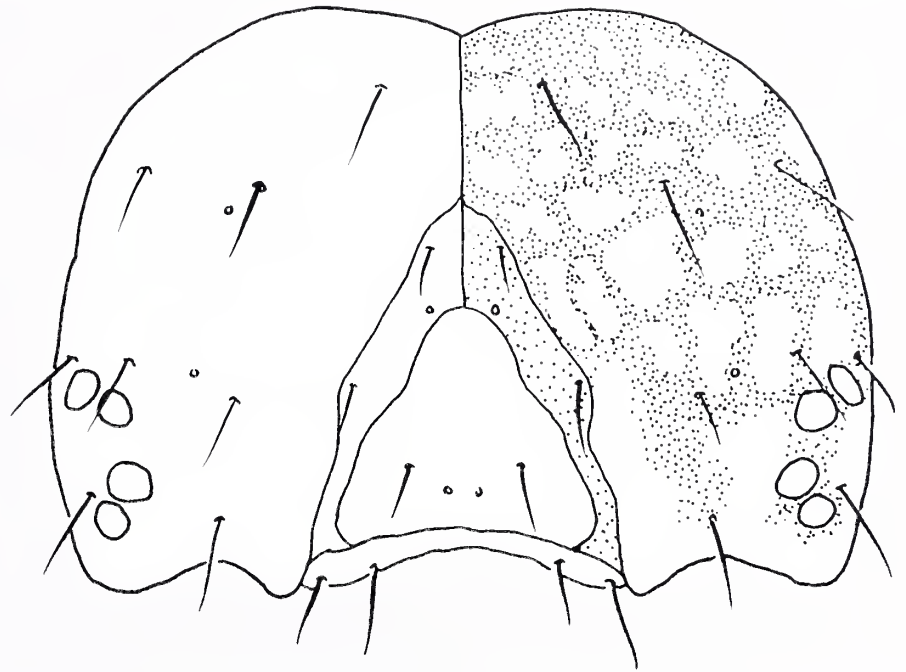
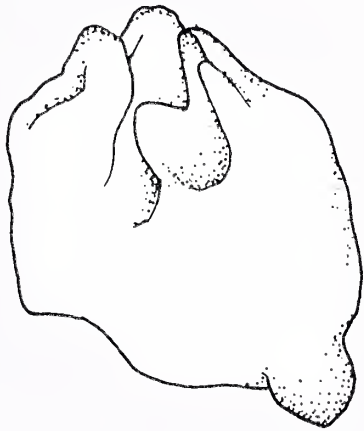


8349
Polypogon protumnusalis



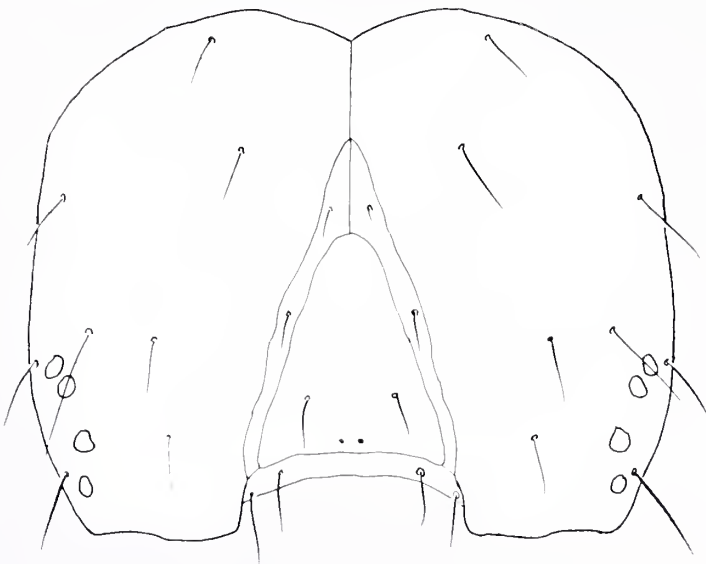
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Polypogon cruralis

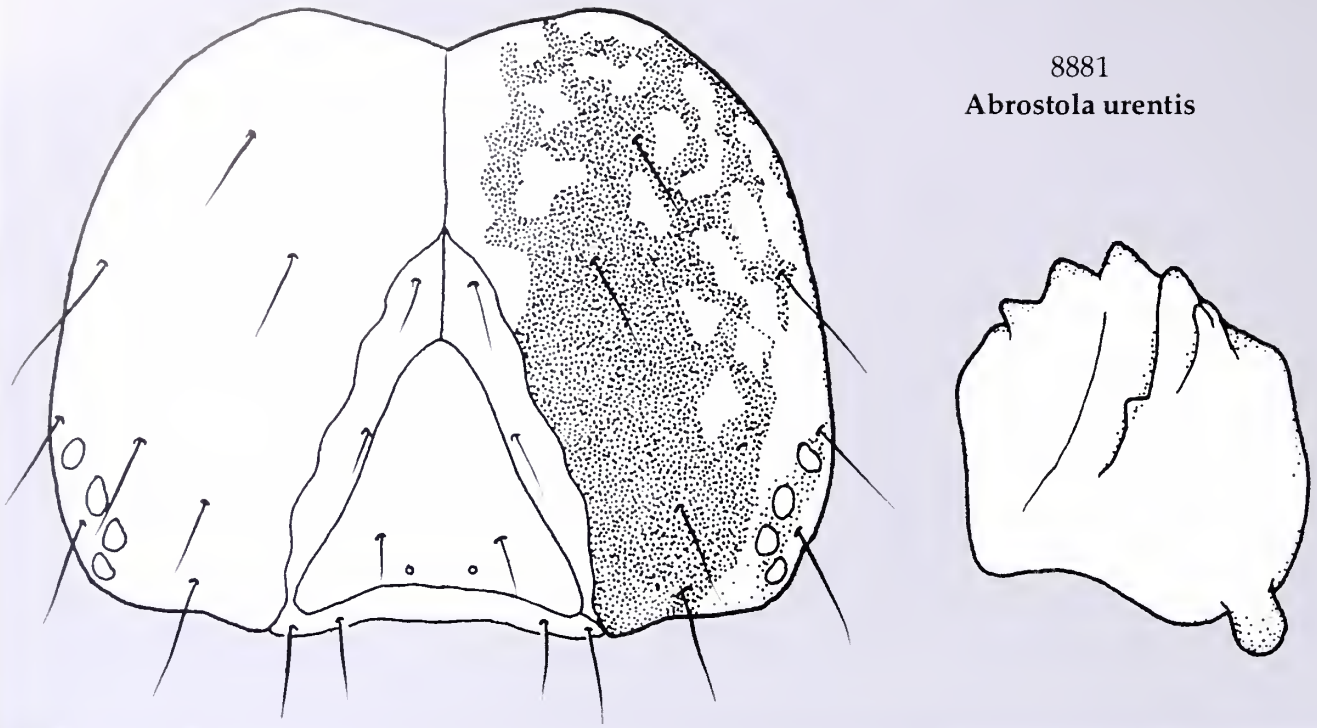


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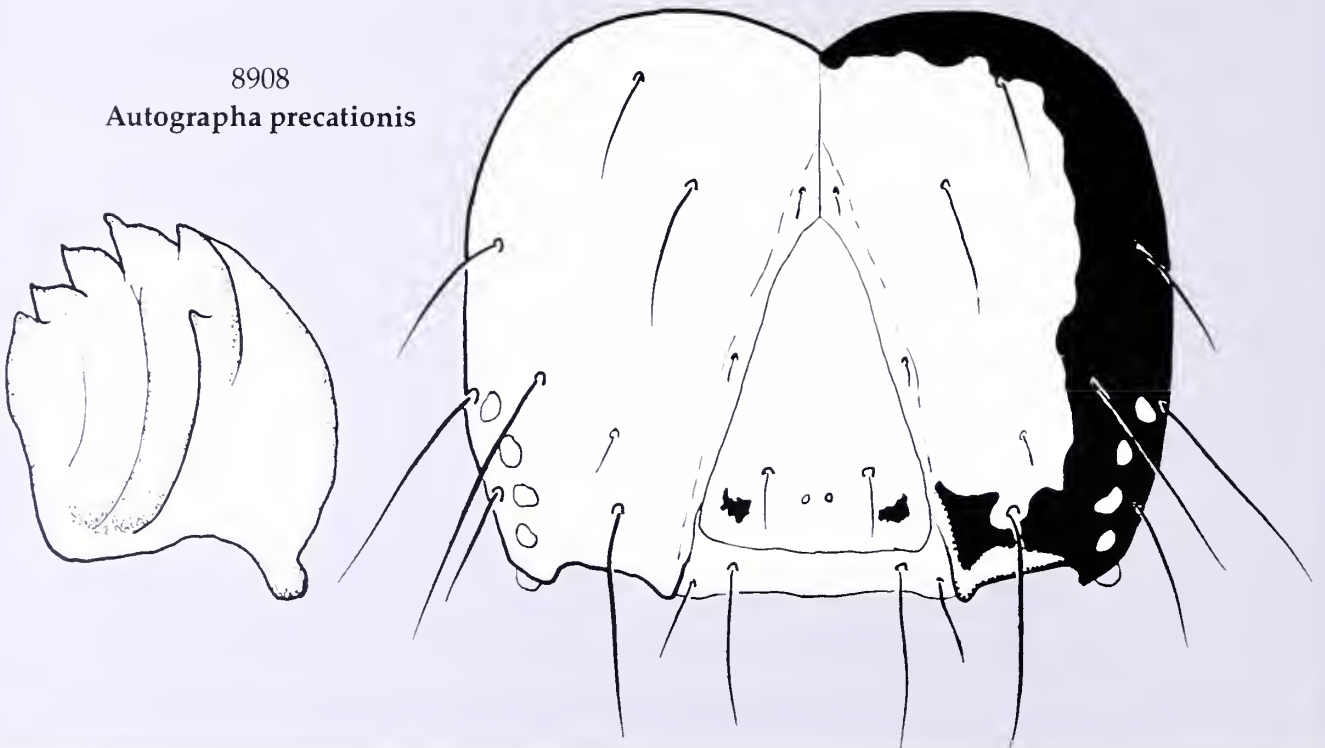
Scoliopteryx libatrix



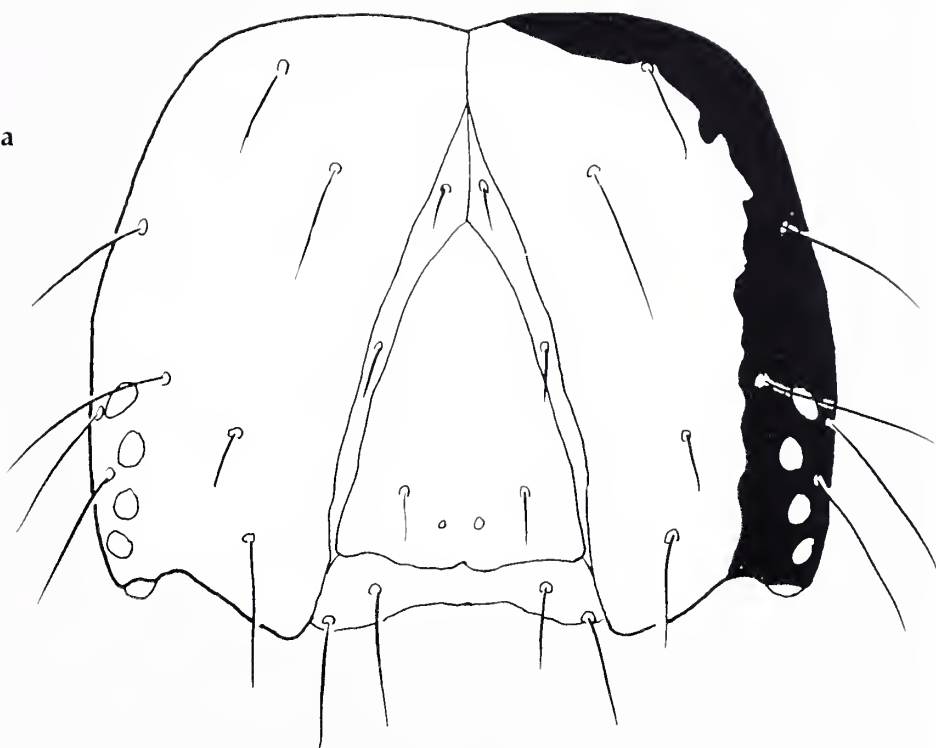
8881
Abrostola urentis



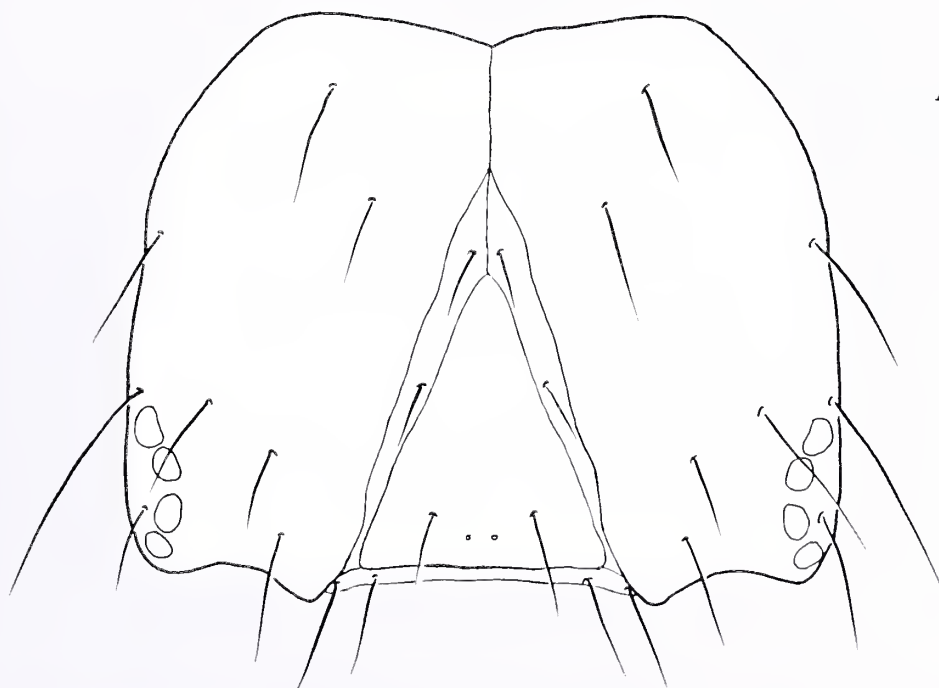
8908
Autographa precationis

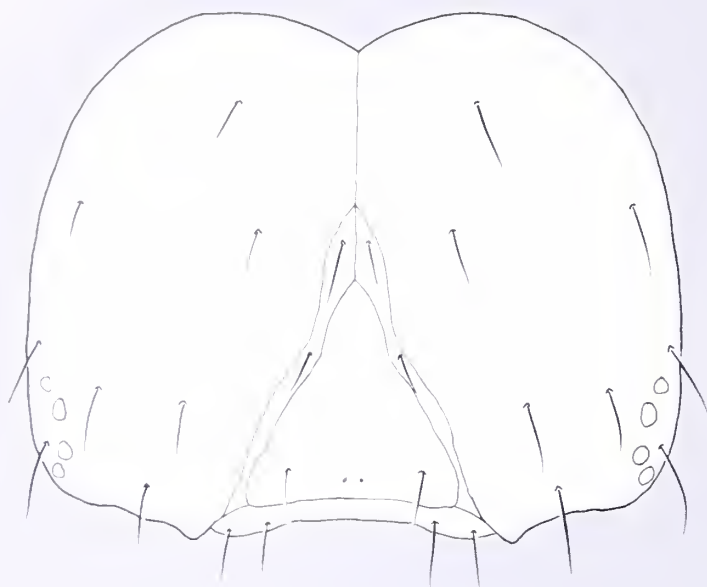


8911
Autographa bimaculata



8923
Autographa ampla

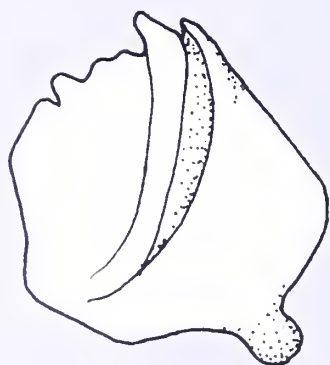




8952
Plusia contexta

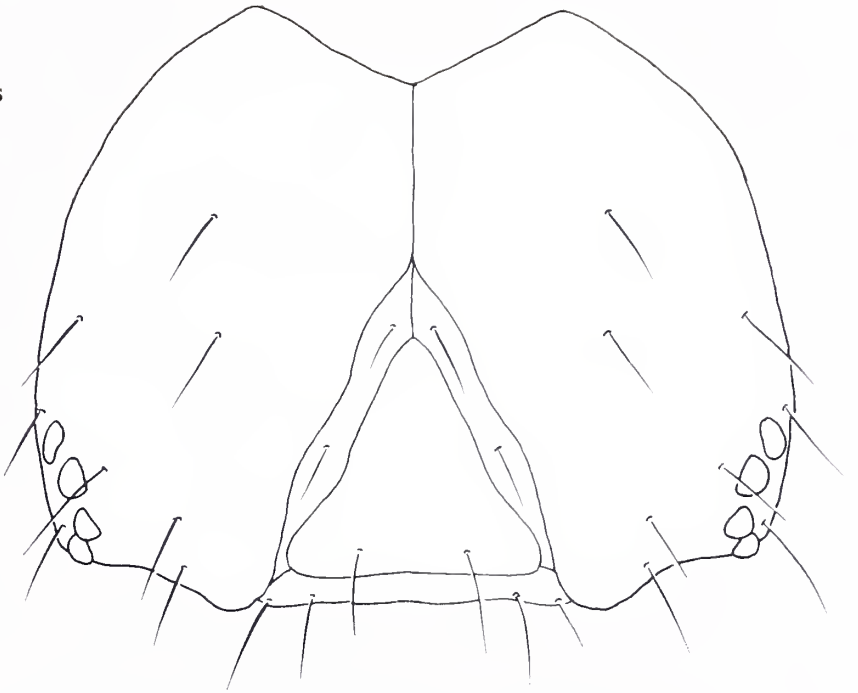
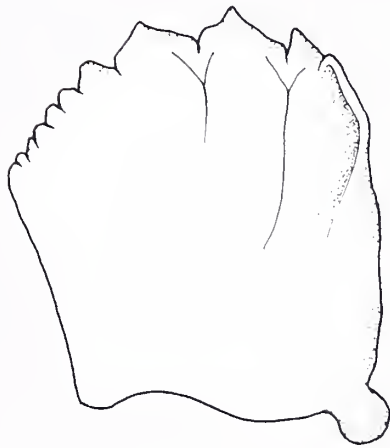


9022
Exyra rolandiana



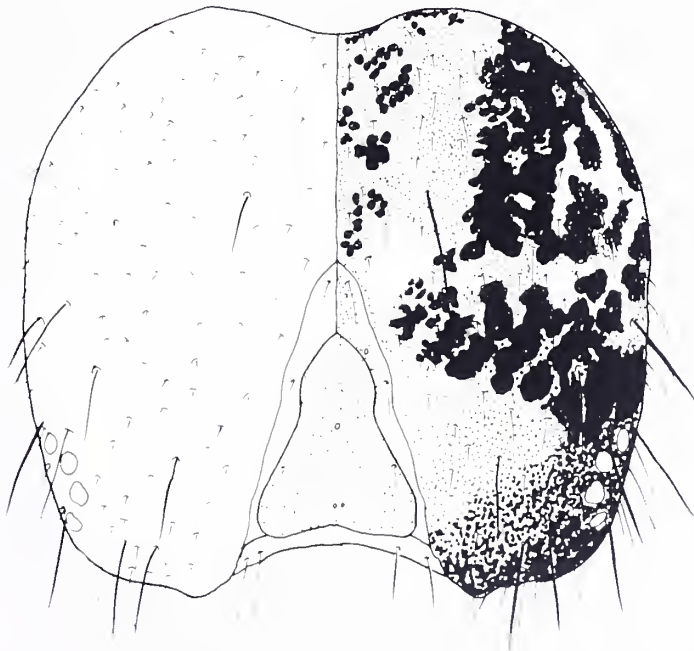
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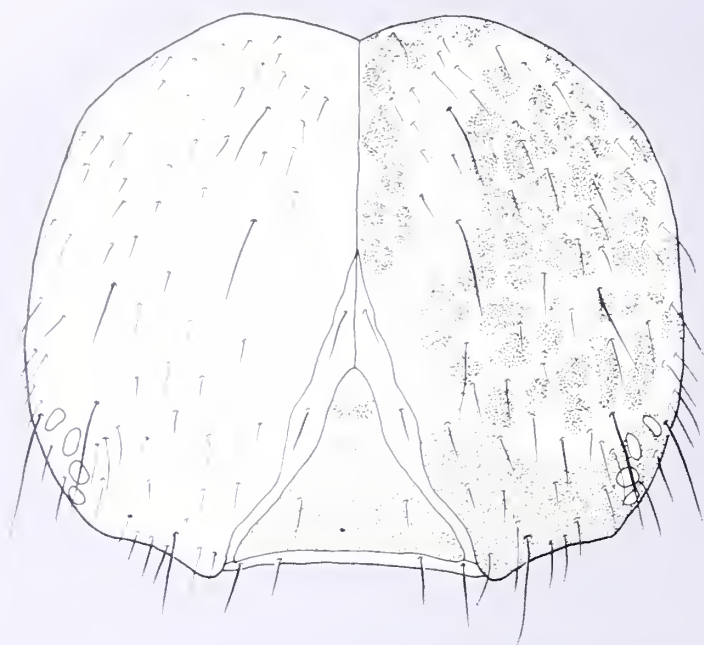
Leuconycta diphteroides



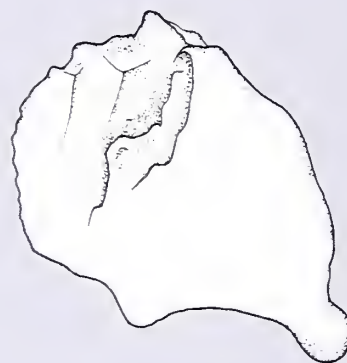
9177

Panthea acronyctoides





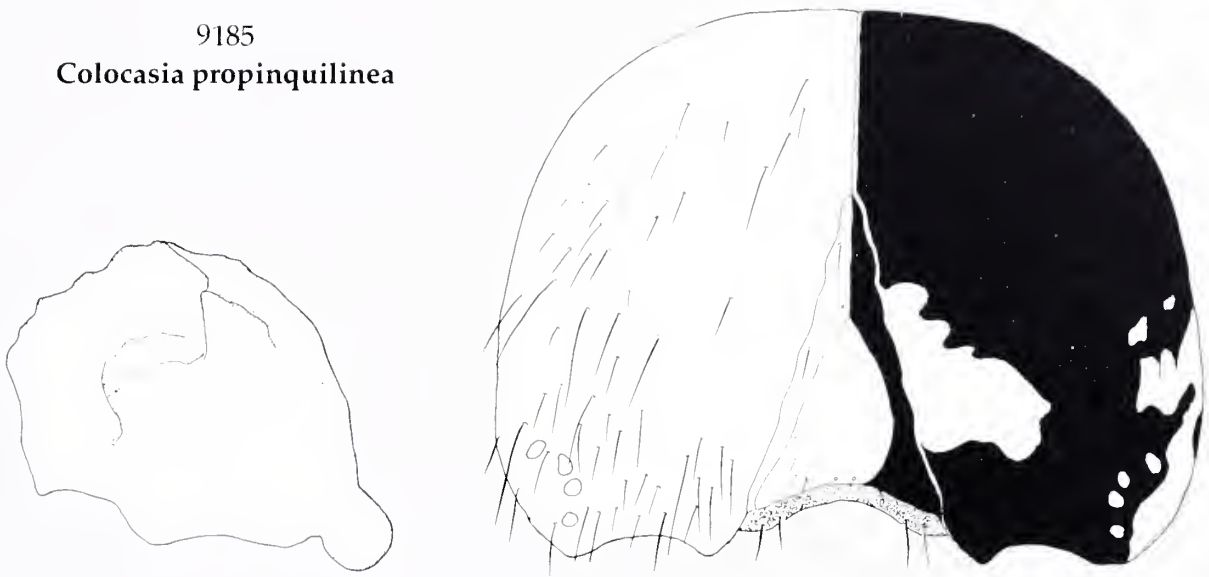
9183
Panthea pallescens



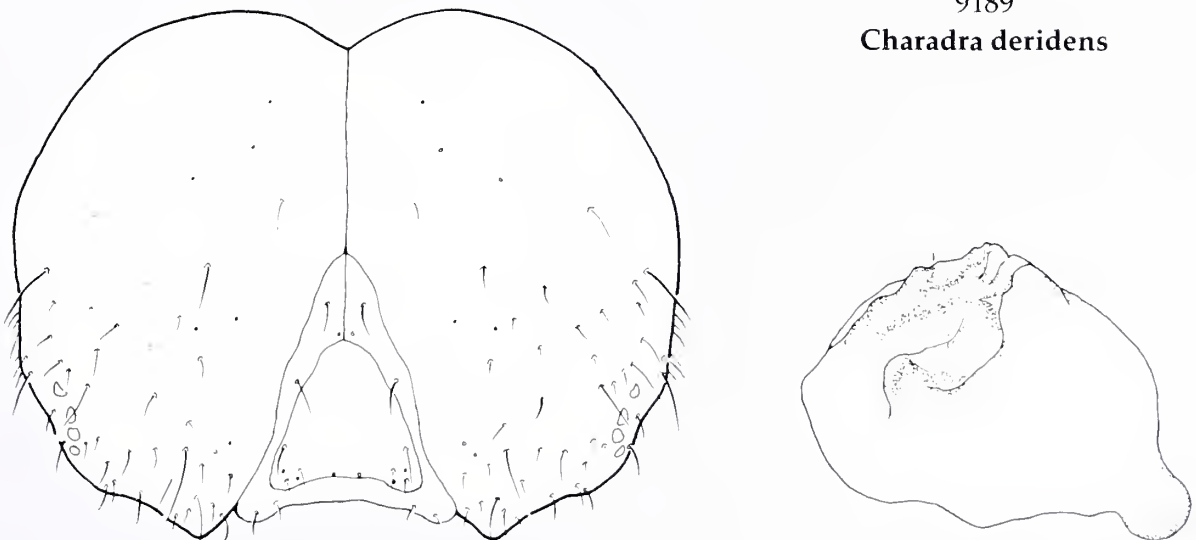
9184
Colocasia flavicornis



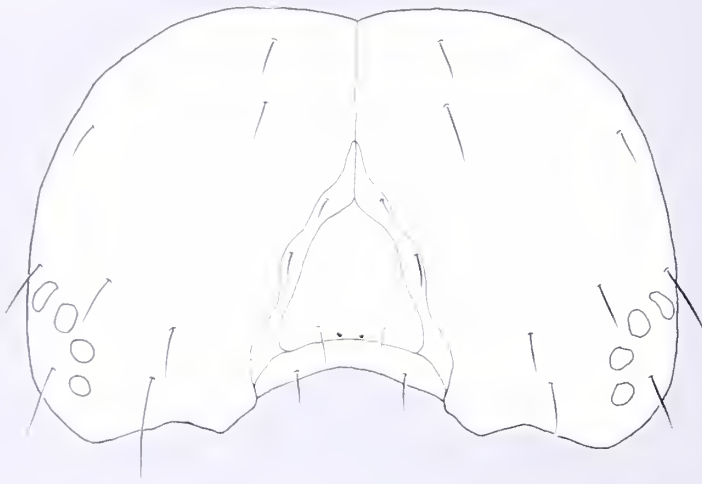
9185
Colocasia propinquilinea



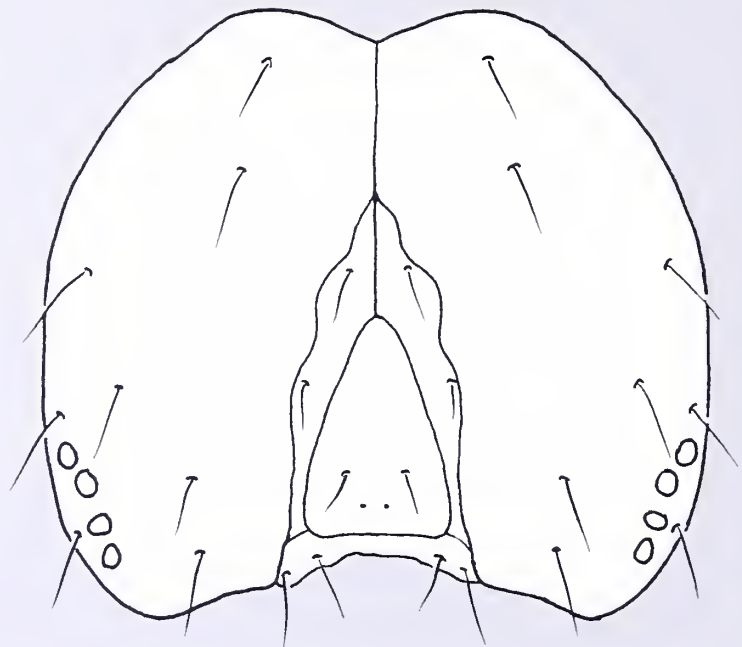
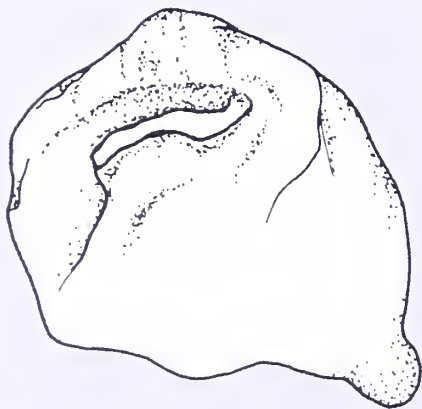
9189
Charadra deridens



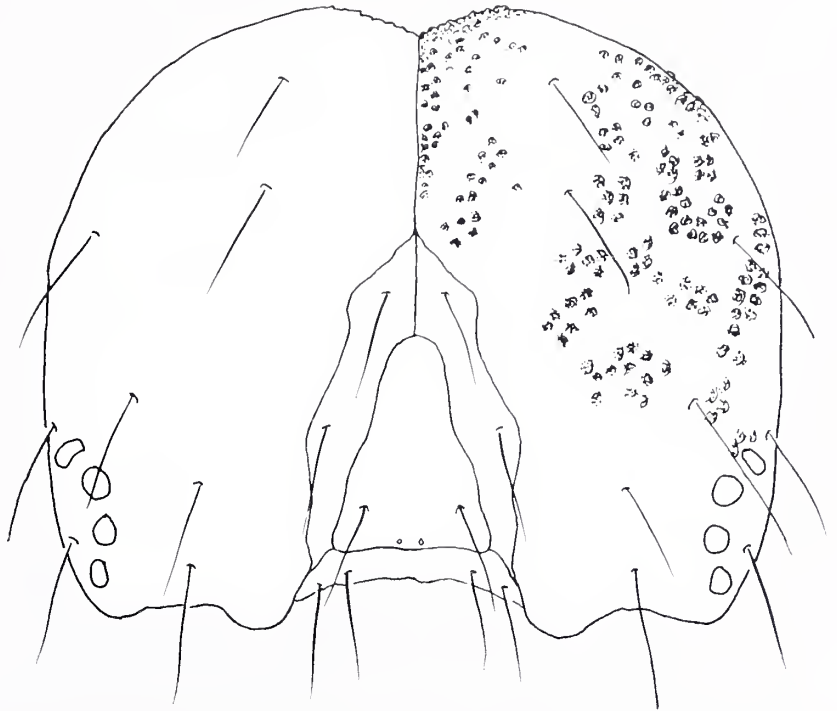
9193
Raphia frater



9203
Acronicta dactylina

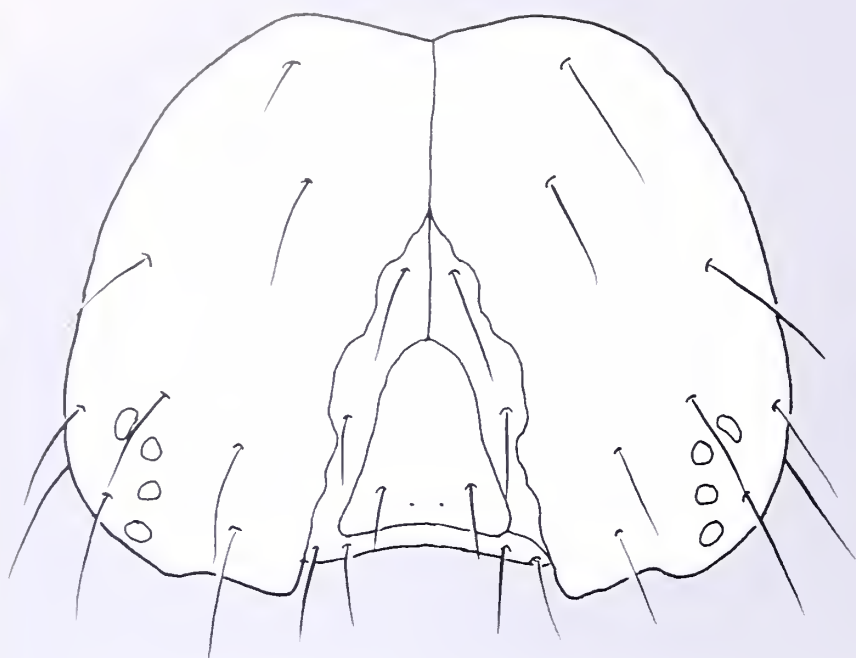


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9236
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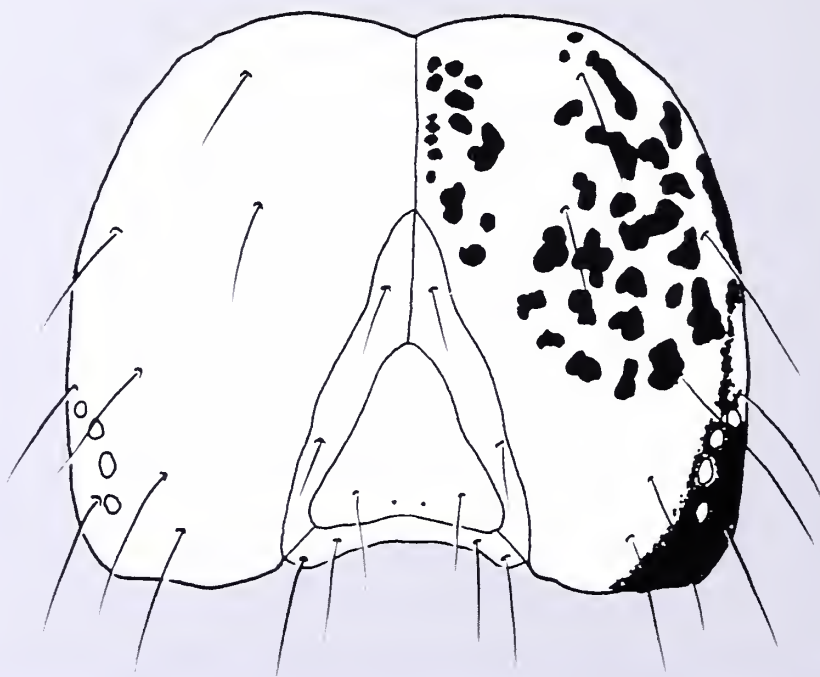




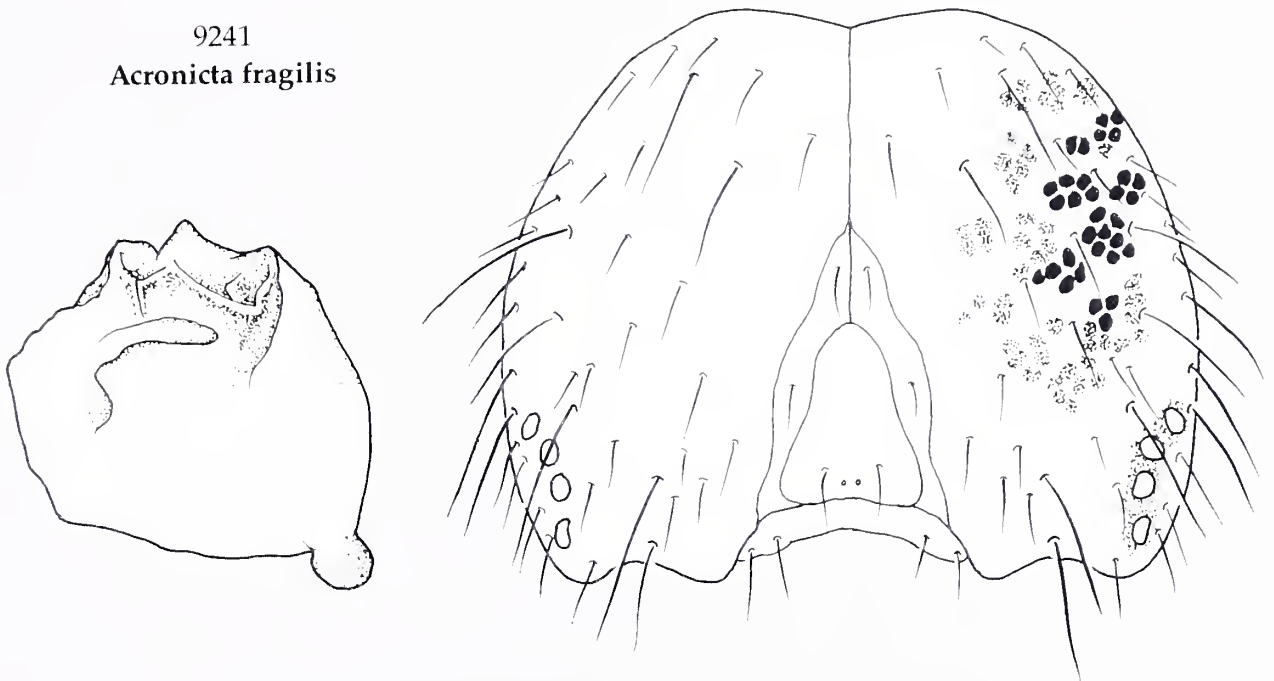
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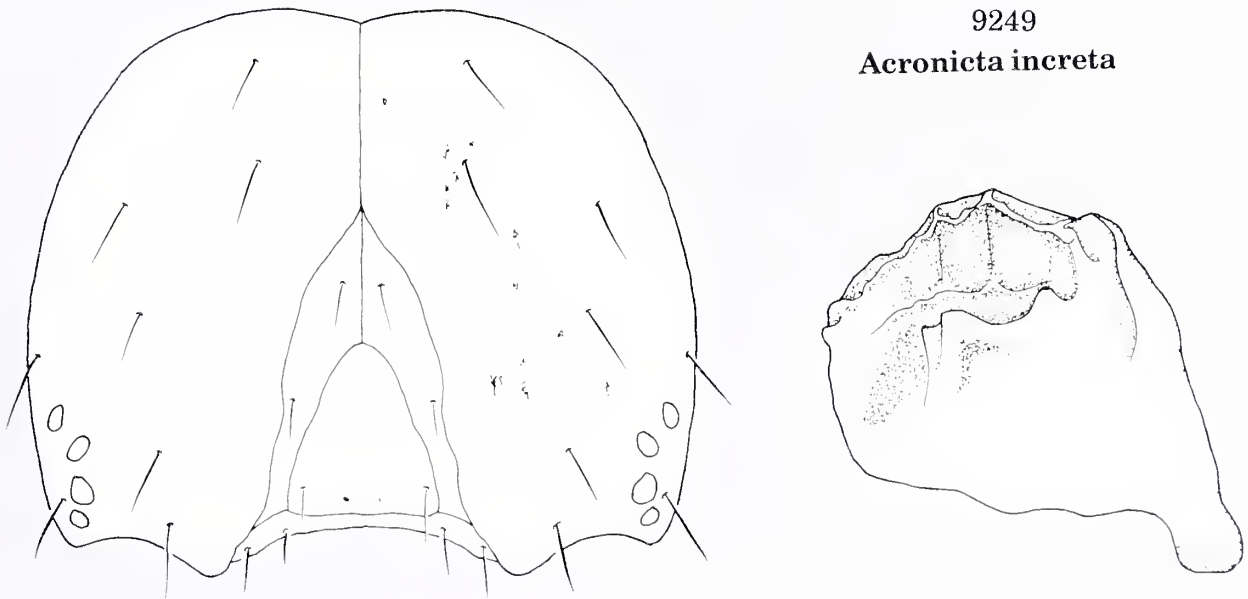
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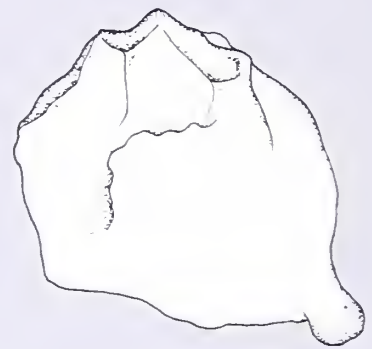
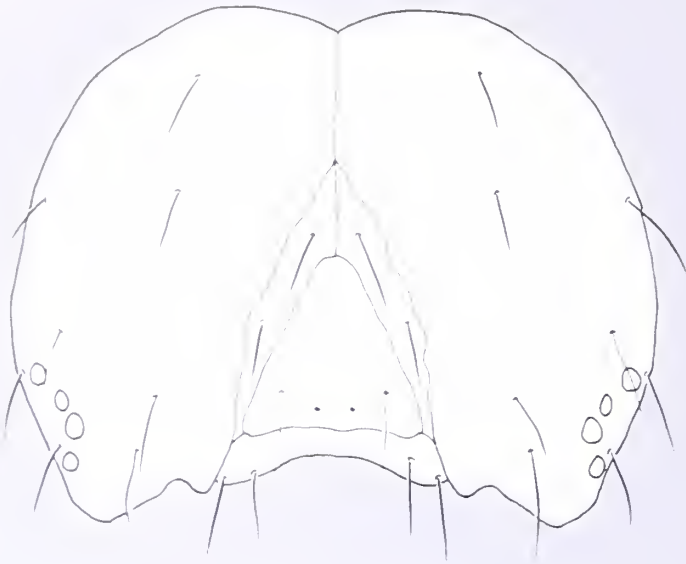
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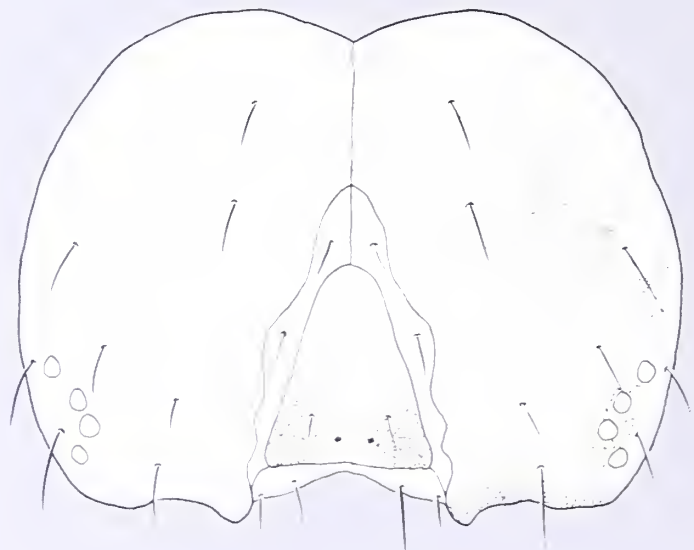
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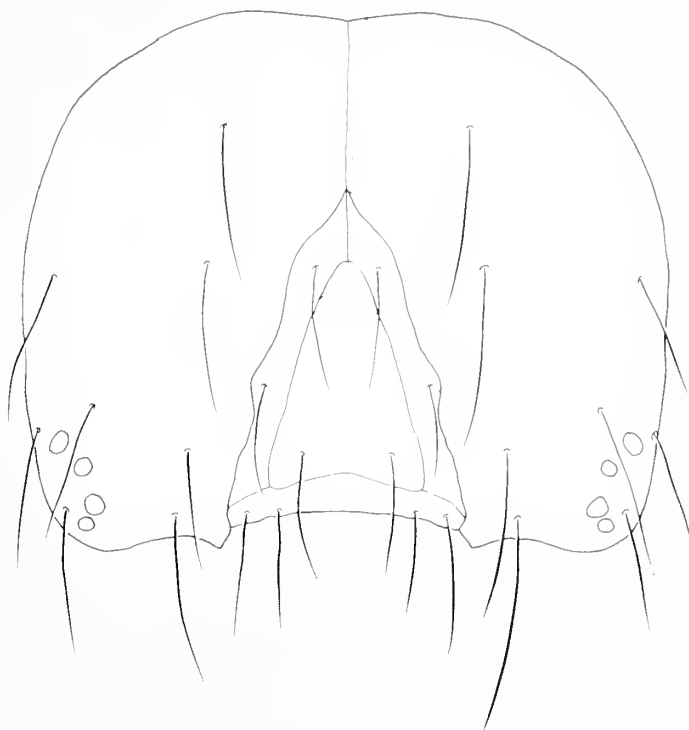
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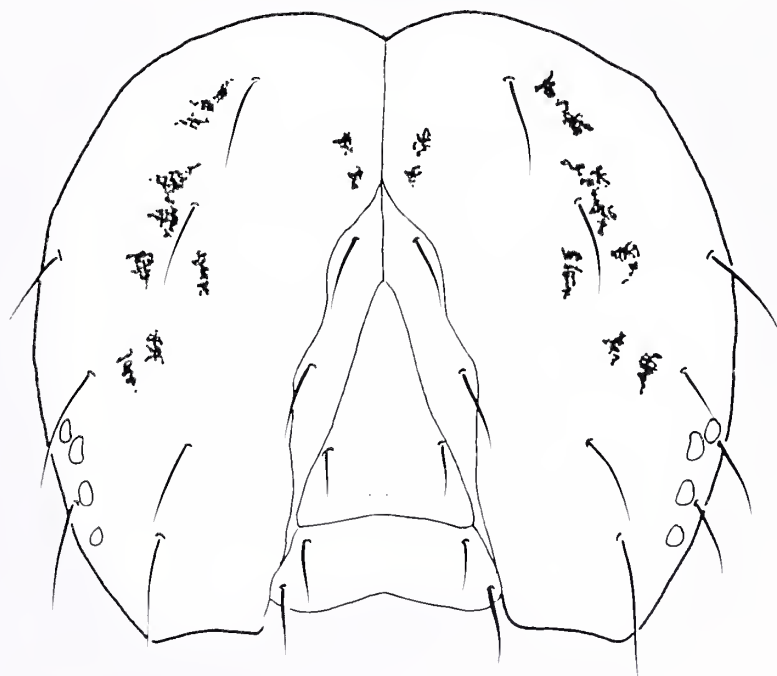
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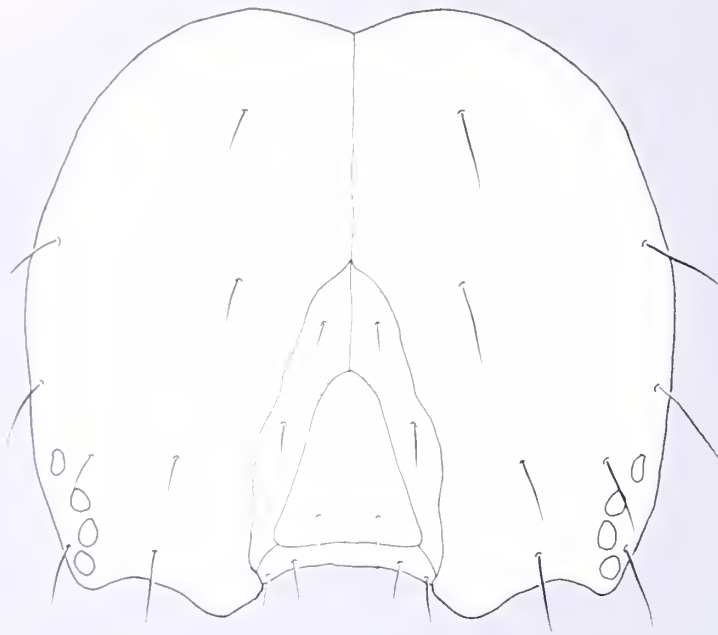


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Agriopodes fallax

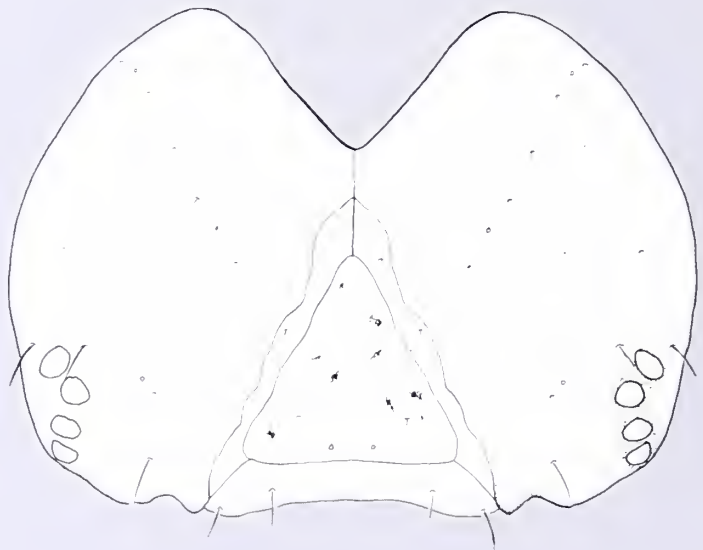
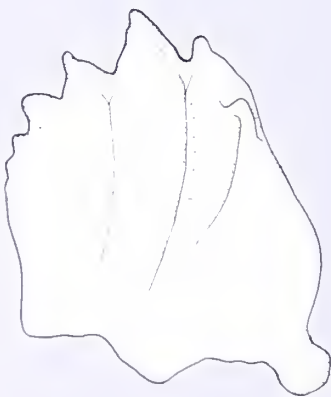




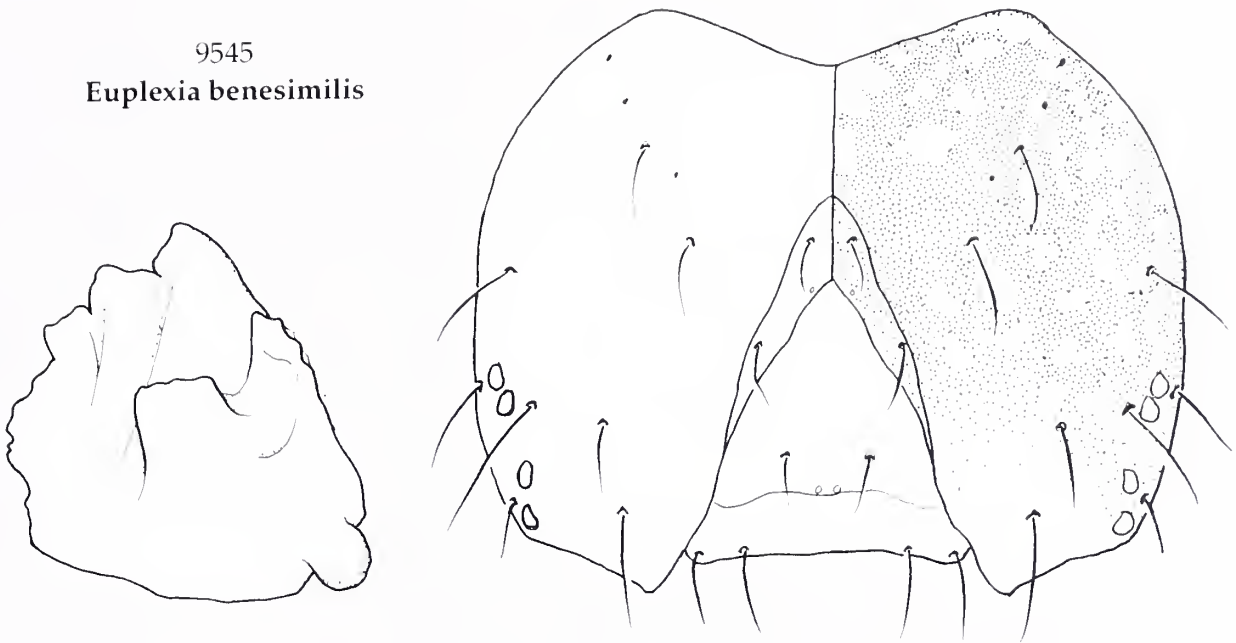
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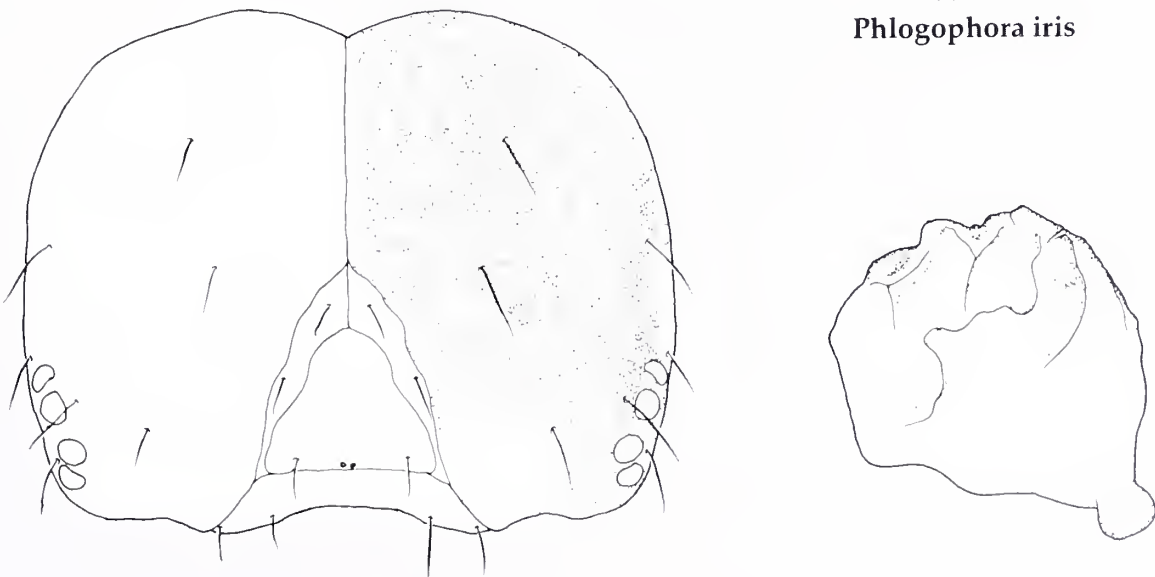
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Euplexia benesimilis

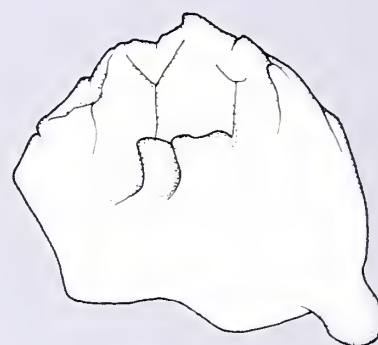
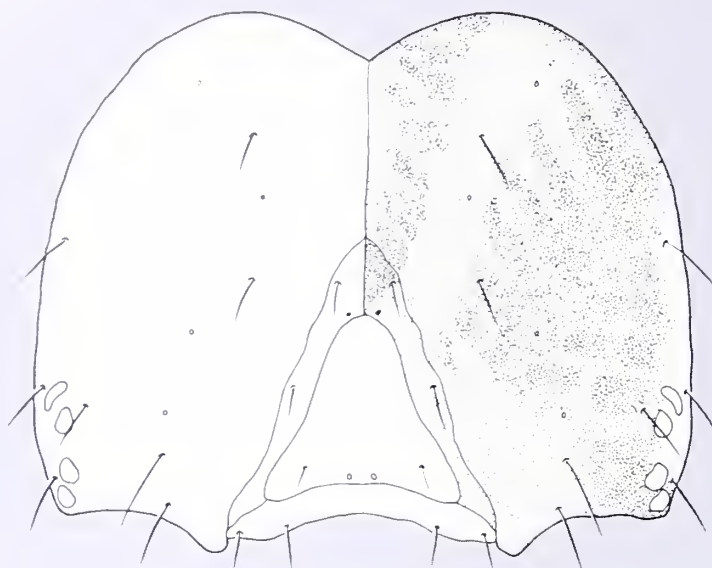


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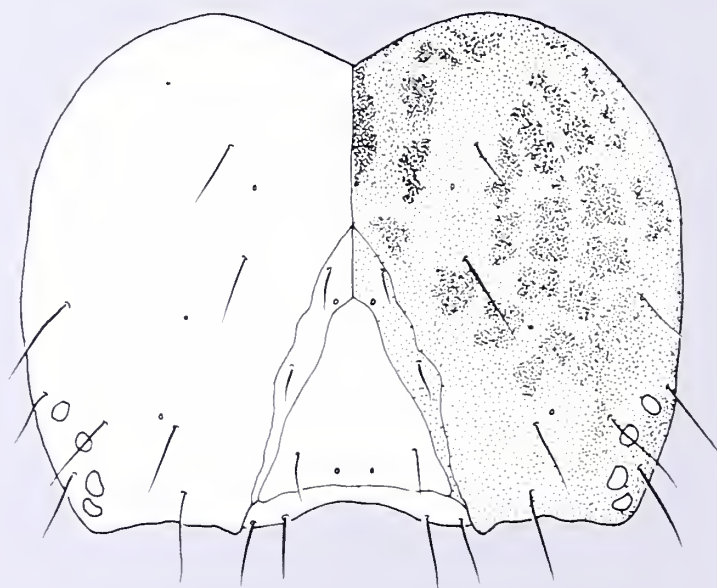
9578.1

Hyppa xylinoides, segregate

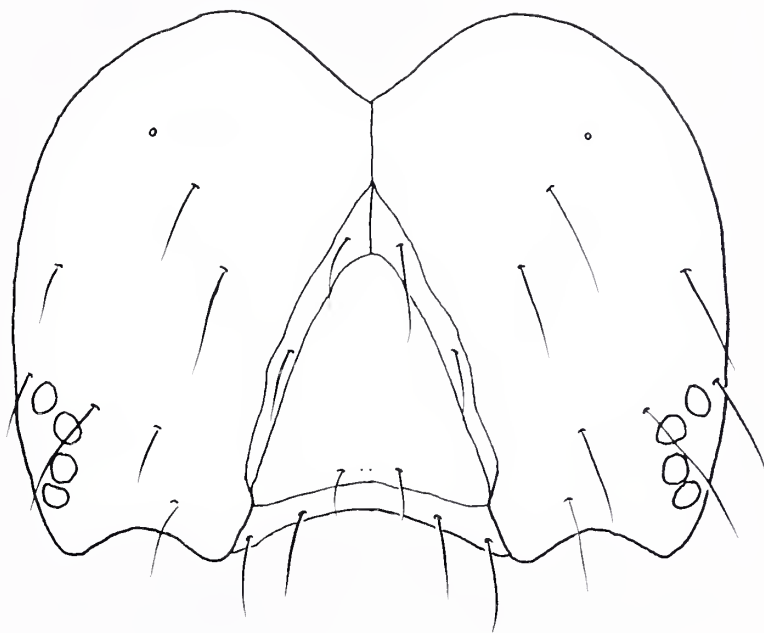
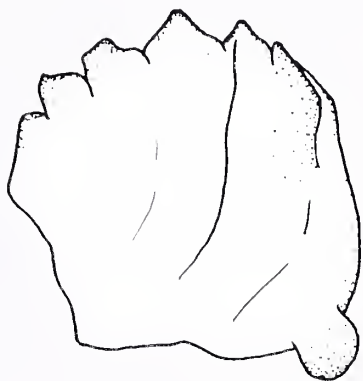


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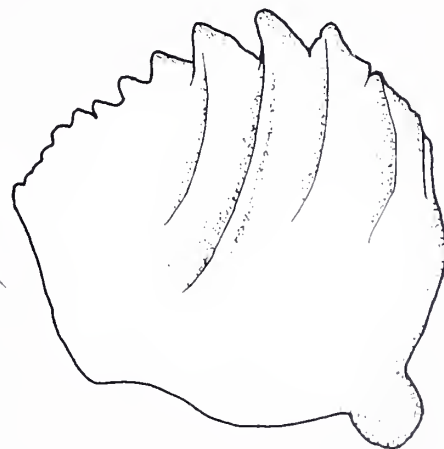
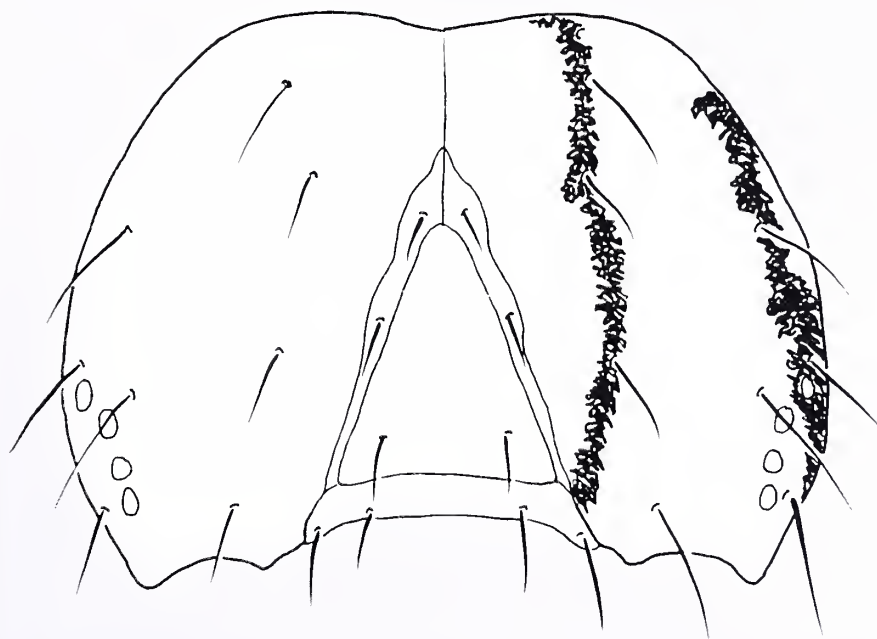
Hyppa xylinoides

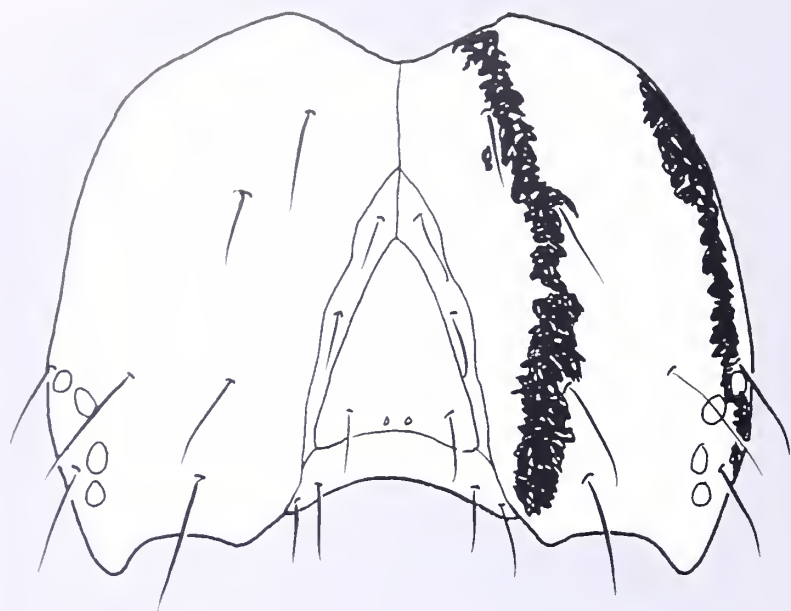


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Nedra ramosula

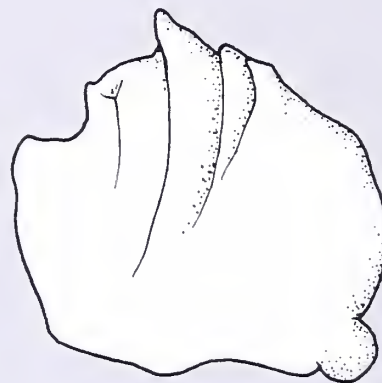


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Callopietria mollissima

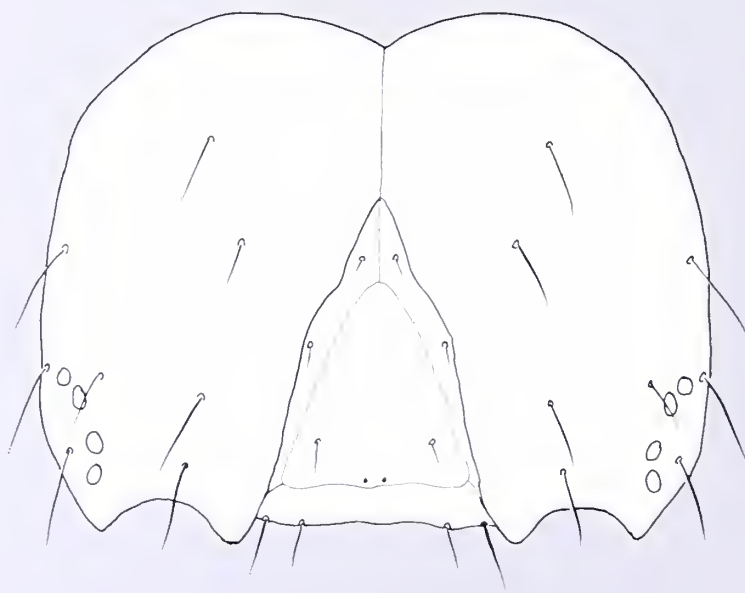




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Callopistria cordata

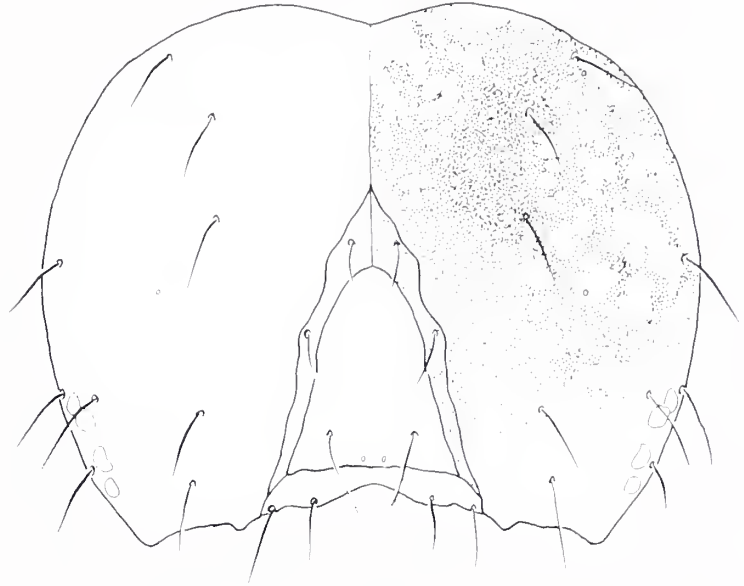
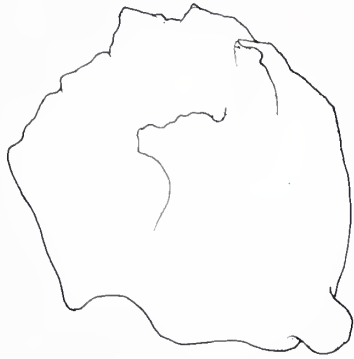


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Lithophane baileyi



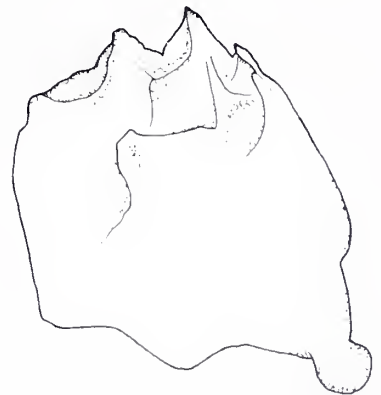
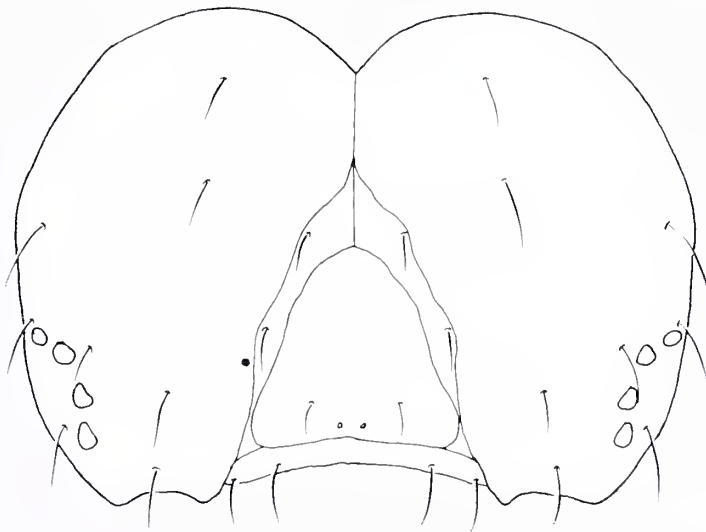
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Lithophane pexata

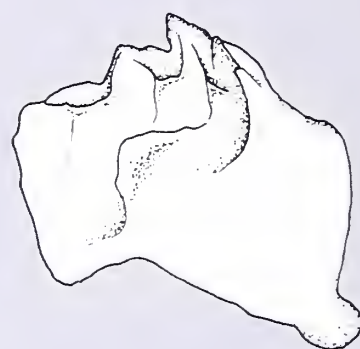
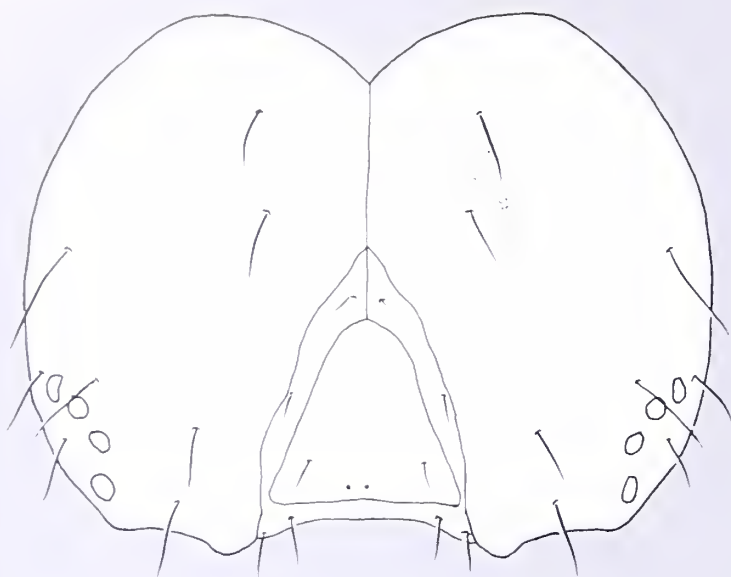


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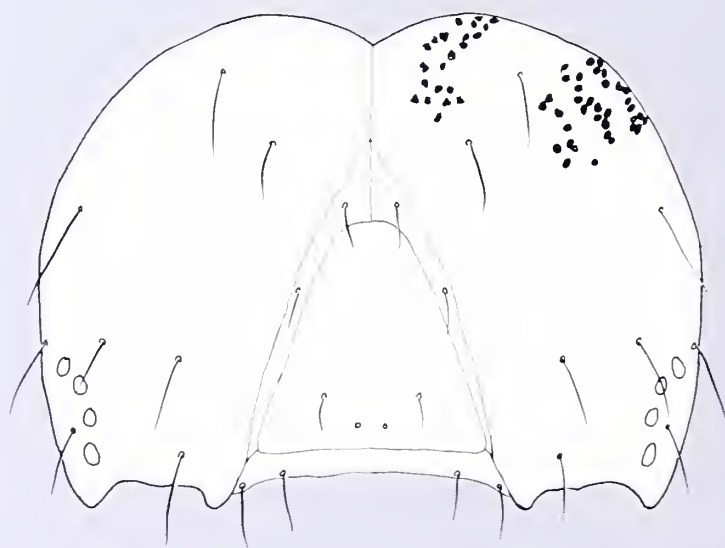
Feralia jocosa



10008
Ferialia comstocki



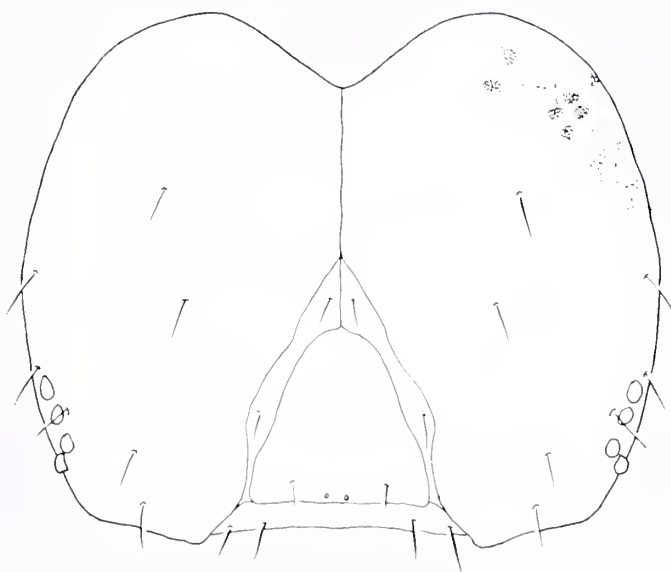
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Cucullia florea



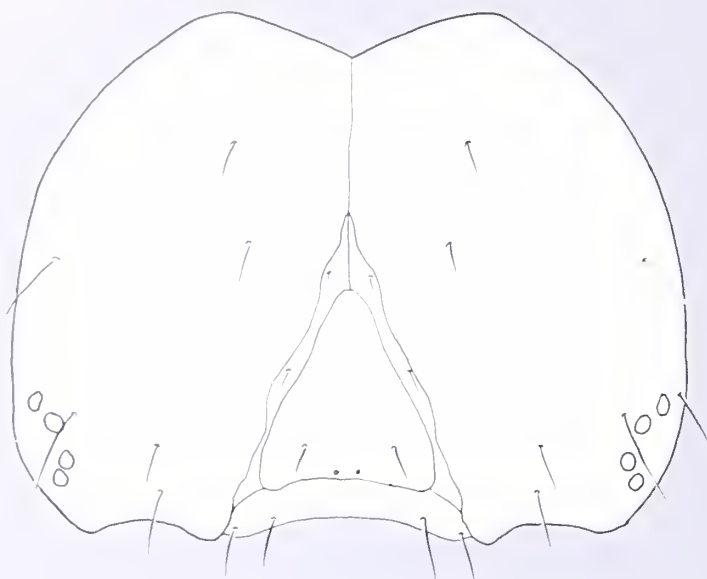
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Cucullia convexipennis



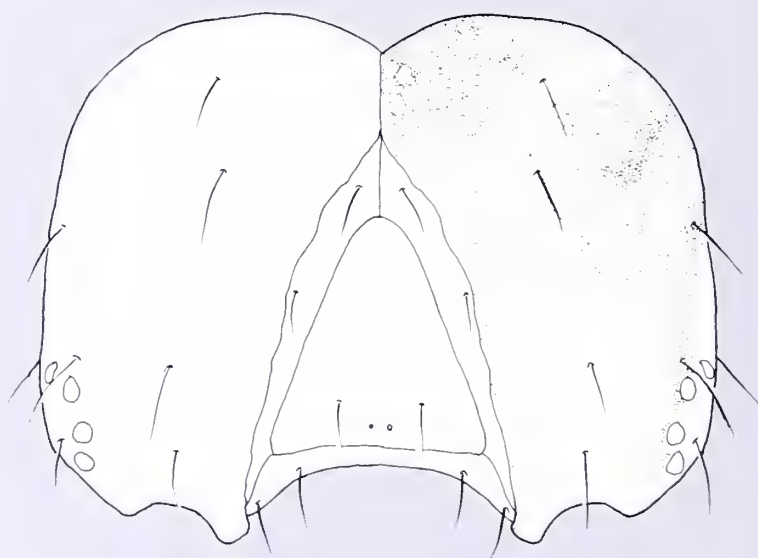
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Melanchra adjuncta



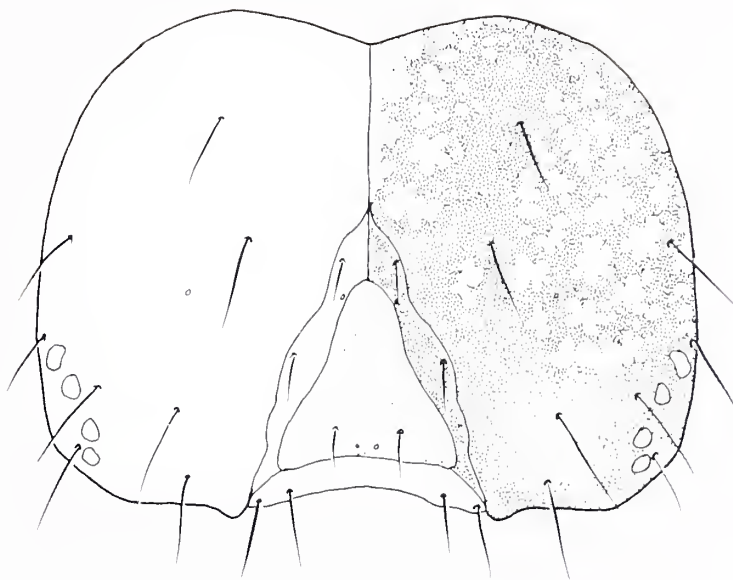
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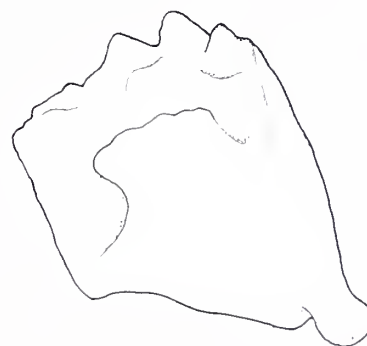
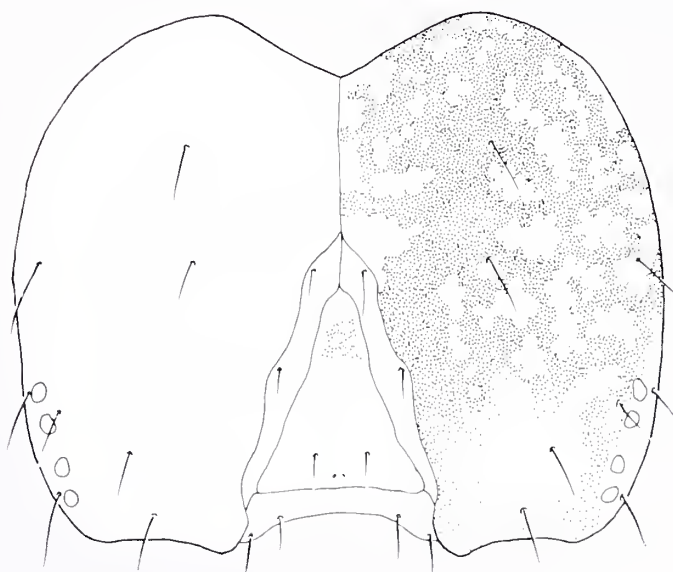
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Melanchra assimilis



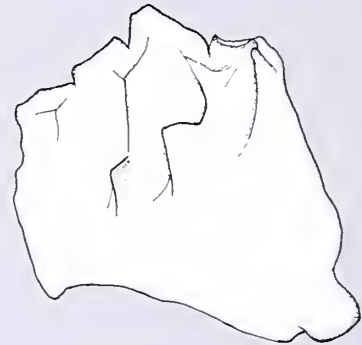
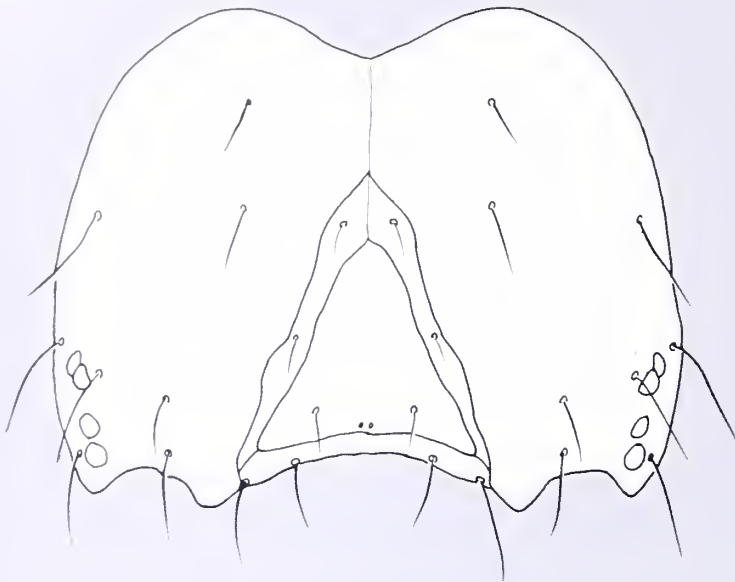
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Lacanobia radix



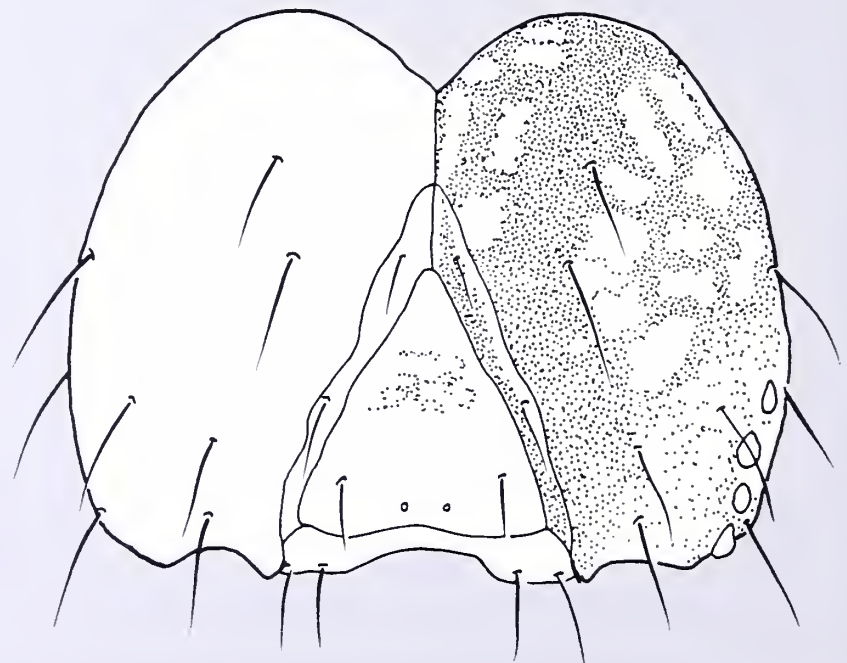
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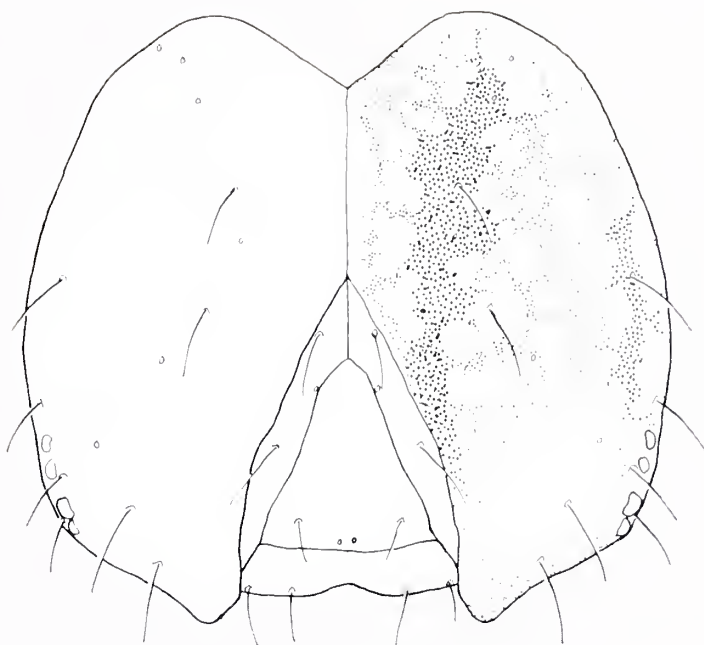
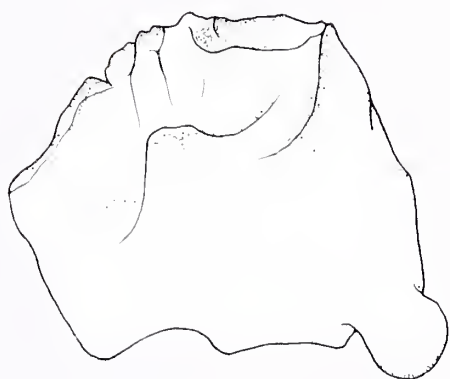
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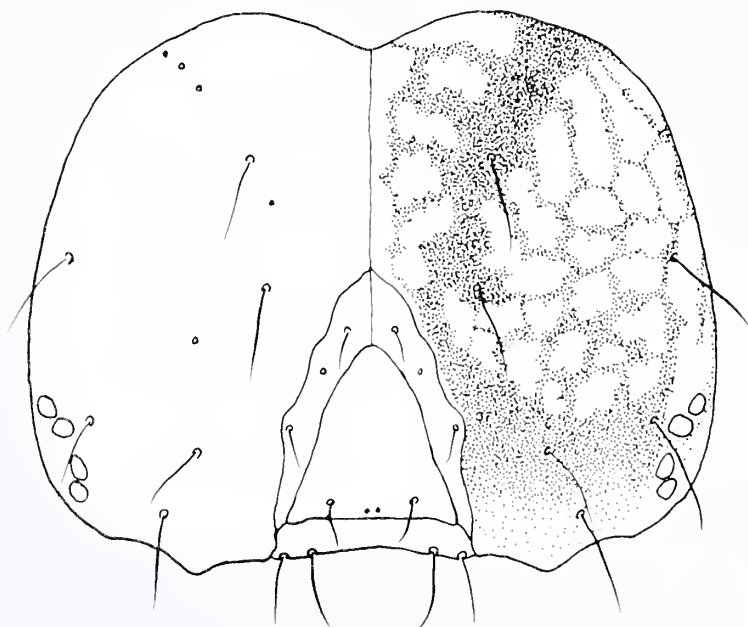
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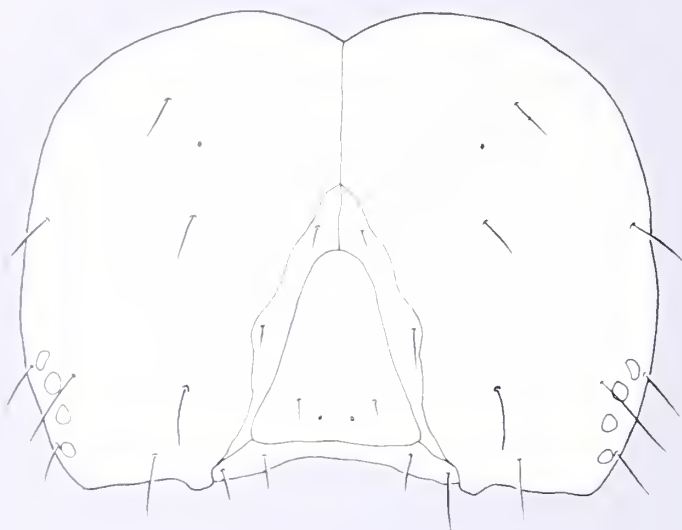
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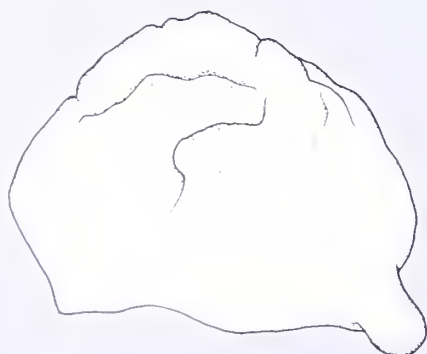
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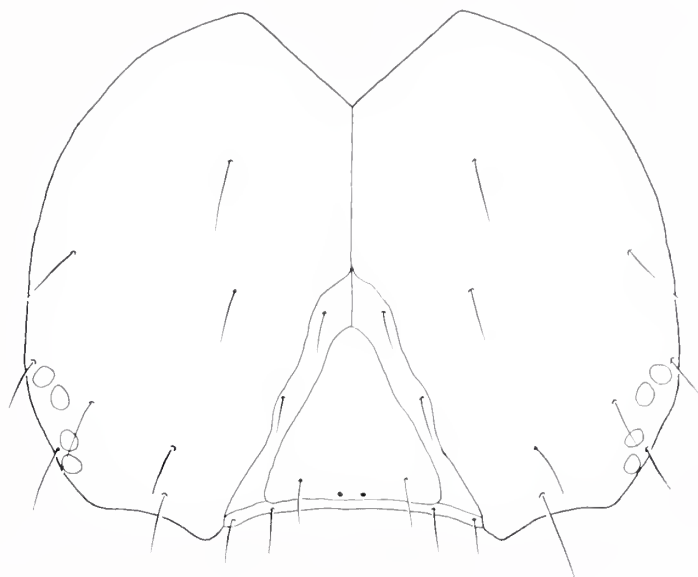
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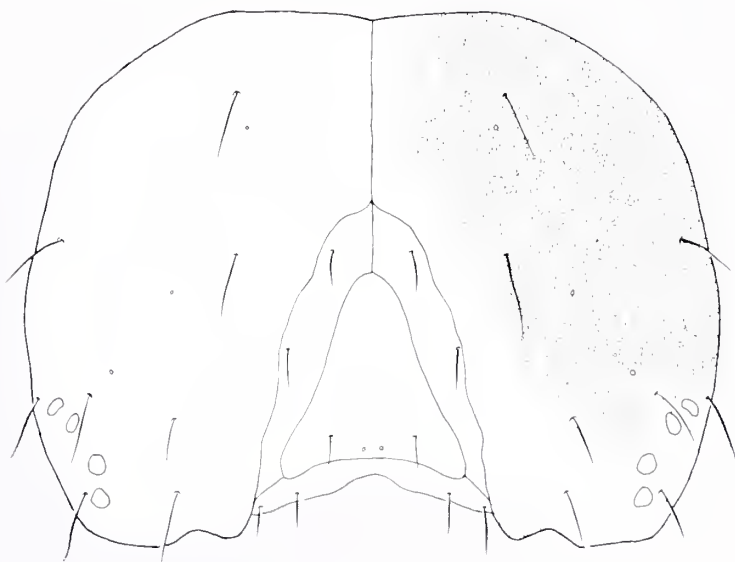
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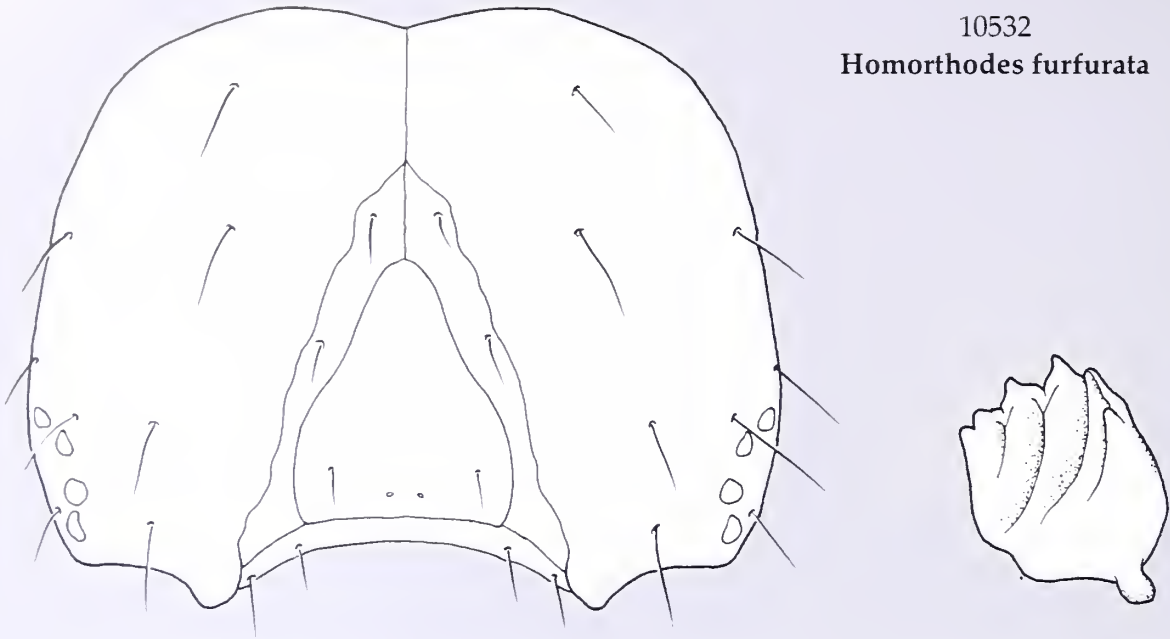
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Achatia distincta



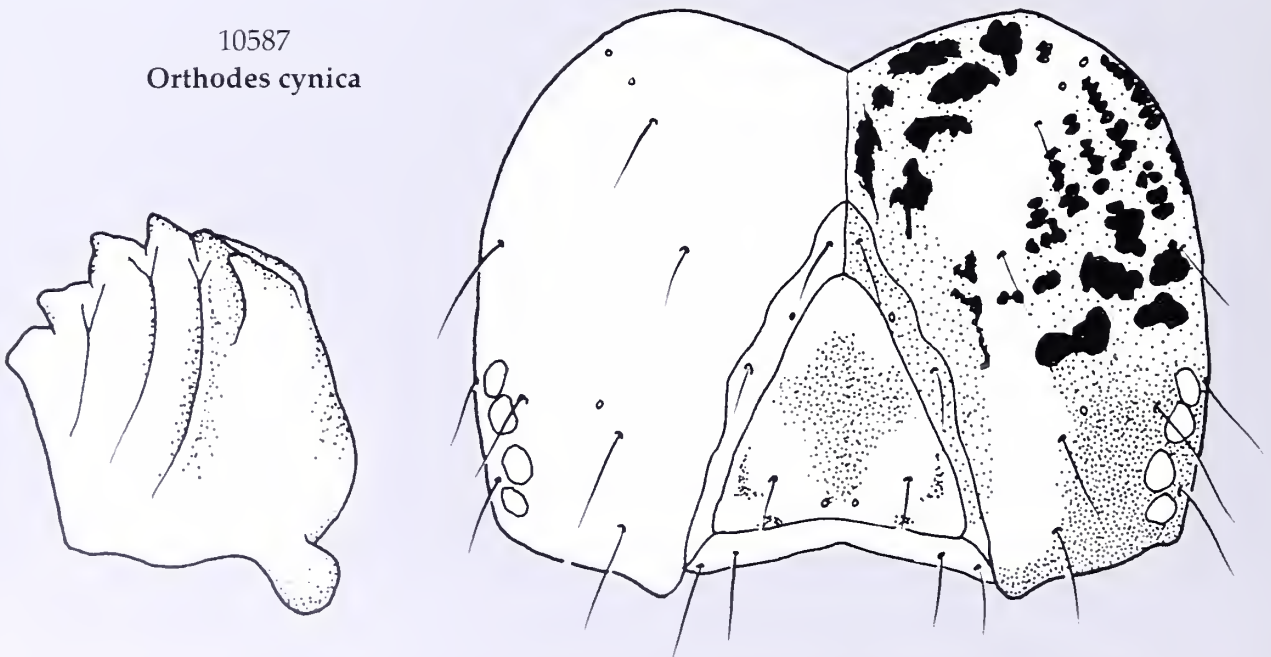
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Morrisonia confusa



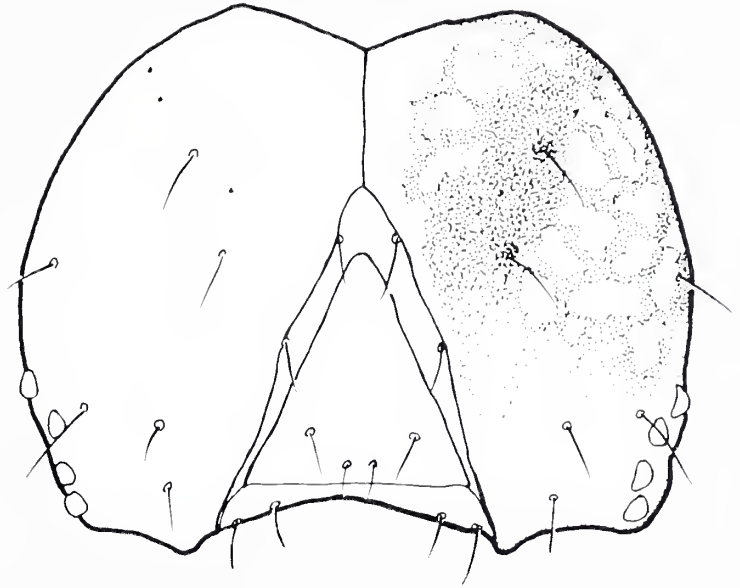
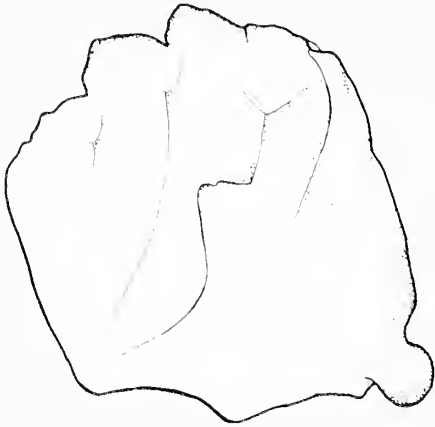
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Homorthodes furfurata



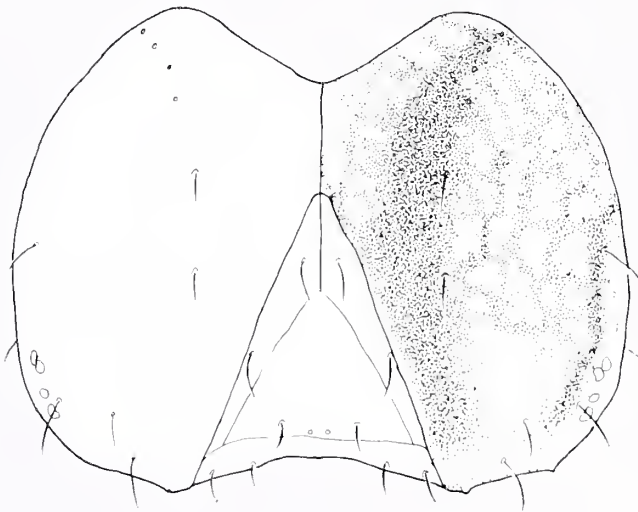
10587
Orthodes cynica



10944
Xestia smithii



10950
Xestia bicarnea



GLOSSARY

(Numbers refer to examples in photographs)

brood: eggs from a single female.

chevron: wedge-shaped marking on subdorsum (10930).

collar: dorsal, transverse band on an anterior segment (4176).

collected on: found feeding on [plant] in nature.

eclose: to hatch from ova.

ex ovo: used here to mean larvae reared from eggs obtained from a captured female unless eggs were collected in nature.

horn: posterodorsal, spine-like appendage (7786)

line: fine longitudinal marking (7953)

mature larva: last larval instar (preceding pupation).

penultimate-instar larva: the larval instar preceding maturity.

pharate: condition in which fully developed moth diapauses within pupal shell.

prepupa: non-feeding mature larva which usually loses color and bulk.

oblique: diagonal, lateral line (7810).

saddle: broad "V" patch on middle of body (4522).

stripe: broad, longitudinal line (8942).

transverse band: broad line going from side to side over dorsum of body.

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<i>Erynnis icelus</i>	3945	<i>icelus</i>	3945
<i>Euagrotis illapsa</i>	10903	<i>illapsa</i>	10903
<i>Eueretagrotis attentus</i>	11009	<i>imbrifera</i>	10276

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Lithophane grotei	9915	Orthodes cynica	10587
Lithophane pexata	9922	Orthosia hibisci	10495
Lithophane thaxteri	9928	Orthosia revicta	10490
littoralis	10992	Orthosia rubescens	10487
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Metanema inatomaria	6819	pexata	9922

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